U.S. Department of Transportation

United States Coast Guard

LIST OF TABULAR QUESTIONS

TO BE ENTERED ON THE INTERNET

BOOK 2

443 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	5229
7.	#2 CARGO TANK	5193
8.	#3 CARGO TANK	4229
9.	#4 CARGO TANK	5116
10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
12.	BRIDGE F.W.	15
13.	#5 CARGO TANK	2956
14.	#6 BALLAST TANK	1628
15.	#7 CARGO/BALLAST TANK	0
16.	#8 CARGO/BALLAST TANK	0
17.	#9 CARGO/BALLAST TANK	6012
18.	#10 CARGO TANK	5417
19.	#11 CARGO TANK	3257
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	900
22.	AFT SETTLERS	325
23.	DISTILLED WATER	56
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	375

A. 86.72 numeral
B. 89.98 numeral
C. 91.40 numeral
D. 93.18 numeral

ANS. C

992 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

DESCRIPTION		LONGITUDINAL BENDING STRESSES (PSI)
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	5229
7.	#2 CARGO TANK	5193
8.	#3 CARGO TANK	4229
9.	#4 CARGO TANK	5116
10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
12.	BRIDGE F.W.	15
13.	#5 CARGO TANK	2956
14.	#6 BALLAST TANK	1628
15.	#7 CARGO/BALLAST TANK	0
16.	#8 CARGO/BALLAST TANK	0
17.	#9 CARGO/BALLAST TANK	6012
18.	#10 CARGO TANK	5417
19.	#11 CARGO TANK	3257
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	900
22.	AFT SETTLERS	325
23.	DISTILLED WATER	56
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	375

A. 29.49 numeral
B. 31.97 numeral
C. 33.61 numeral
D. 35.12 numeral

ANS. B

1015 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference to determine

the sagging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	5229
7.	#2 CARGO TANK	5193
8.	#3 CARGO TANK	4229
9.	#4 CARGO TANK	5116
10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
12.	BRIDGE F.W.	15
13.	#5 CARGO TANK	3956
14.	#6 BALLAST TANK	1628
15.	#7 CARGO/BALLAST TANK	5929
16.	#8 CARGO/BALLAST TANK	6012
17.	#9 CARGO/BALLAST TANK	0
18.	#10 CARGO TANK	5417
19.	#11 CARGO TANK	3257
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	900
22.	AFT SETTLERS	325
23.	DISTILLED WATER	56
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	375

A. 71.07 numeral
B. 74.95 numeral
C. 77.56 numeral
D. 78.29 numeral

ANS. D

1502 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	5229
7.	#2 CARGO TANK	5193
8.	#3 CARGO TANK	4229
9.	#4 CARGO TANK	5116
10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
12.	BRIDGE F.W.	15
13.	#5 CARGO TANK	3956
14.	#6 BALLAST TANK	1628
15.	#7 CARGO/BALLAST TANK	5929
16.	#8 CARGO/BALLAST TANK	6012
17.	#9 CARGO/BALLAST TANK	0
18.	#10 CARGO TANK	5417
19.	#11 CARGO TANK	3257
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	900
22.	AFT SETTLERS	325
23.	DISTILLED WATER	56
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	375

A. 49.73 numeral
B. 52.76 numeral
C. 55.29 numeral
D. 57.93 numeral

ANS. A

1667 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line

mark. You will enter the summer zone after steaming one day, and you will enter the winter zone after eight days. You will consume 36 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.002, and the TPI is 47. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	74 inches	(T)	7 inches above (S)
Summer	81 inches	(S)	*
Winter	88 inches	(W)	7 inches below (S)
Fresh water allowance			10 inches

A. 71.0 inches
B. 72.7 inches
C. 79.5 inches
D. 81.0 inches

ANS. B

1735 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming eleven days, and you will enter the winter zone after fourteen days. You will consume 36 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.025, and the average TPI is 51. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	75 inches	(T)	8 inches above (S)
Summer	83 inches	(S)	*
Winter	91 inches	(W)	8 inches below (S)
Fresh water allowance			7 inches

A. 75.0 inches
B. 76.0 inches
C. 79.5 inches
D. 81.0 inches

ANS. D

1747 You are loading in a port subject to the winter load line mark and bound for a port subject to the tropical load line mark. You will enter the summer zone after steaming four days, and you will enter the tropical zone after seven days. You will consume 38 tons of fuel, water, and stores per

day. The hydrometer reading at the loading pier is 1.004, and the average TPI is 72. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	81 inches	(T)	7 inches above (S)
Summer	88 inches	(S)	*
Winter	95 inches	(W)	7 inches below (S)
Fresh water allowance			6 inches

A. 85 inches
B. 90 inches
C. 92 inches
D. 94 inches

ANS. B

1850 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming one and one-half days, and you will enter the winter zone after six days. You will consume 29 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.006, and the average TPI is 43. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	71 inches	(T)	7 inches above (S)
Summer	78 inches	(S)	*
Winter	85 inches	(W)	7 inches below (S)
Fresh water allowance			6 inches

A. 79.5 inches
B. 76.5 inches
C. 75.0 inches
D. 72.5 inches

ANS. B

1897 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	4659
7.	#2 CARGO TANK	5280
8.	#3 CARGO TANK	5489
9.	#4 CARGO TANK	0
10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
12.	BRIDGE F.W.	10
13.	#5 CARGO TANK	5196
14.	#6 BALLAST TANK	2400
15.	#7 CARGO/BALLAST TANK	5319
16.	#8 CARGO/BALLAST TANK	5400
17.	#9 CARGO/BALLAST TANK	6000
18.	#10 CARGO TANK	5361
19.	#11 CARGO TANK	4952
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	850
22.	AFT SETTLERS	360
23.	DISTILLED WATER	50
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	0

A. 43.19 numeral
B. 46.56 numeral
C. 49.92 numeral
D. 55.72 numeral

ANS. A

1987 You are loading in a port subject to the winter load line mark and bound for a port subject to the tropical load line mark. You will enter the summer zone after steaming four days, and you will enter the tropical zone after twelve

days. You will consume 39 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.025, and the average TPI is 49. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE		LOAD LINE	
Tropical	76 inches	(T)	7 inches above (S)
Summer	83 inches	(S)	*
Winter	90 inches	(W)	7 inches below (S)
Fresh water allowance			10 inches

A. 90 inches
B. 87 inches
C. 80 inches
D. 77 inches

ANS. A

2006 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming one day, and you will enter the winter zone after eleven days. You will consume 33 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.004, and the average TPI is 46. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE		LOAD LINE	
Tropical	81 inches	(T)	7 inches above (S)
Summer	88 inches	(S)	*
Winter	95 inches	(W)	7 inches below (S)
Fresh water allowance			6 inches

A. 85 inches
B. 82 inches
C. 80 inches
D. 78 inches

ANS. B

2017 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming six days. You will enter the winter zone after an additional three days. You will consume 28 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.020, and the average TPI is 46. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE			LOAD LINE
Tropical	61 inches	(T)	5 inches above (S)
Summer	66 inches	(S)	*
Winter	71 inches	(W)	5 inches below (S)
Fresh water allowance			5 inches

A. 61.4 inches
B. 64.5 inches
C. 70.6 inches
D. 77.5 inches

ANS. B

2044 You are loading in a port subject to the winter load line mark and bound for a port subject to the tropical load line mark. You will enter the summer zone after steaming four days, and you will enter the tropical zone after twelve days. You will consume 31 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.000, and the average TPI is 46. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE			LOAD LINE
Tropical	72 inches	(T)	5 inches above (S)
Summer	77 inches	(S)	*
Winter	82 inches	(W)	5 inches below (S)
Fresh water allowance			4 inches

A. 78 inches
B. 74 inches
C. 70 inches
D. 68 inches

ANS. A

2051 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

DESCRIPTION	
1. FORE PEAK	0

2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	4659
7.	#2 CARGO TANK	5280
8.	#3 CARGO TANK	5498
9.	#4 CARGO TANK	0
10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
12.	BRIDGE F.W.	10
13.	#5 CARGO TANK	5196
14.	#6 BALLAST TANK	2400
15.	#7 CARGO/BALLAST TANK	5319
16.	#8 CARGO/BALLAST TANK	5400
17.	#9 CARGO/BALLAST TANK	6000
18.	#10 CARGO TANK	5361
19.	#11 CARGO TANK	4952
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	850
22.	AFT SETTLERS	360
23.	DISTILLED WATER	50
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	0

A. 81.79 numeral
B. 85.02 numeral
C. 89.68 numeral
D. 91.92 numeral

ANS. D

2072 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming eight days, and you will enter the winter zone after ten days. You will consume 31 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.016, and

the average TPI is 41. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	66 inches	(T)	6 inches above (S)
Summer	72 inches	(S)	*
Winter	78 inches	(W)	6 inches below (S)
Fresh water allowance			6 inches

A. 71 inches
B. 69 inches
C. 66 inches
D. 65 inches

ANS. C

2082 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming four days, and you will enter the winter zone after nine days. You will consume 29 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.008, and the average TPI is 53. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	75 inches	(T)	8 inches above (S)
Summer	83 inches	(S)	*
Winter	91 inches	(W)	8 inches below (S)
Fresh water allowance			9 inches

A. 72.5 inches
B. 75.0 inches
C. 77.0 inches
D. 80.0 inches

ANS. D

2096 You are loading in a port subject to the tropical load line mark and bound for a port subject to the summer load line

mark. You will enter the summer zone after steaming ten days. You will consume 33 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.021, and the average TPI is 51. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE		LOAD LINE	
Tropical	73 inches	(T)	6 inches above (S)
Summer	79 inches	(S)	*
Winter	85 inches	(W)	6 inches below (S)
Fresh water allowance			6 inches

A. 76.0 inches
B. 75.5 inches
C. 72.0 inches
D. 71.5 inches

ANS. D

2101 You are loading in a port subject to the summer load line mark and bound for a port subject to the winter load line mark. You will enter the winter zone after steaming four days. You will consume 35 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.0083, and the average TPI is 65. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE		LOAD LINE	
Tropical	68 inches	(T)	6 inches above (S)
Summer	74 inches	(S)	*
Winter	80 inches	(W)	6 inches below (S)
Fresh water allowance			6 inches

A. 74 inches
B. 78 inches
C. 80 inches
D. 86 inches

ANS. A

2118 You are loading in a port subject to the tropical load line mark and bound for a port subject to the summer load line mark. You will enter the summer zone after steaming four days. You will consume 41 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.000 and the average TPI is 55. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE		LOAD LINE	
Tropical	43 inches	(T)	6 inches above (S)
Summer	49 inches	(S)	*
Winter	54 inches	(W)	6 inches below (S)
Fresh water allowance			5 inches

A. 55 inches
B. 49 inches
C. 44 inches
D. 41 inches

ANS. D

2125 You are loading in a port subject to the winter load line mark and bound for a port subject to the summer load line mark. You will enter the summer zone after steaming six days. You will consume 32 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.005, and the average TPI is 65. What is the minimum freeboard required at the start of the voyage?

FREEBOARD FROM DECK LINE		LOAD LINE	
Tropical	72 inches	(T)	7 inches above (S)
Summer	79 inches	(S)	*
Winter	86 inches	(W)	7 inches below (S)
Fresh water allowance			6 inches

A. 93 inches
B. 90 inches
C. 81 inches
D. 70 inches

ANS. C

2134 You are loading in a port subject to the tropical load line mark and bound for a port subject to the summer load line mark. You will enter the summer zone after steaming two days. You will consume 28 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.020, and the average TPI is 55. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	69 inches	(T)	7 inches above (S)
Summer	76 inches	(S)	*
Winter	83 inches	(W)	7 inches below (S)
Fresh water allowance			6 inches

A. 62 inches
B. 66 inches
C. 70 inches
D. 74 inches

ANS. D

2140 You are loading in a port subject to the summer load line mark and bound for a port subject to the tropical load line mark. You will enter the tropical zone after steaming four days. You will consume 33 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.006, and the average TPI is 66. What is the minimum freeboard required at the start of the voyage?

	FREEBOARD FROM DECK LINE		LOAD LINE
Tropical	77 inches	(T)	7 inches above (S)
Summer	84 inches	(S)	*
Winter	91 inches	(W)	7 inches below (S)
Fresh water allowance			8 inches

A. 78 inches
B. 82 inches
C. 86 inches
D. 88 inches

ANS. A

2176 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

	LONGITUDINAL BENDING STRESSES (PSI)
	DESCRIPTION
1.	FORE PEAK 749

2.	DEEP TANK P/S	1747
3.	FWD STORES	6
4.	FWD BUNKERS	2867
5.	FWD COFFERDAM	338
6.	#1 CARGO TANK	0
7.	#2 CARGO TANK	0
8.	#3 CARGO TANK	0
9.	#4 CARGO TANK	0
10.	BRIDGE CREW	3
11.	BRIDGE STORES	10
12.	BRIDGE F.W.	10
13.	#5 CARGO TANK	0
14.	#6 BALLAST TANK	2595
15.	#7 CARGO/BALLAST TANK	3315
16.	#8 CARGO/BALLAST TANK	2595
17.	#9 CARGO/BALLAST TANK	2595
18.	#10 CARGO TANK	0
19.	#11 CARGO TANK	0
20.	AFT COFFERDAM	239
21.	AFT BUNKERS	859
22.	AFT SETTLERS	360
23.	DISTILLED WATER	60
24.	AFT STORES	80
25.	AFT CREW	7
26.	F.W. AFT	71
27.	AFT PEAK	394

A. 91.42 numeral
B. 85.60 numeral
C. 79.23 numeral
D. 74.73 numeral

ANS. C

2560 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	4759
7.	#2 CARGO TANK	5288
8.	#3 CARGO TANK	5463
9.	#4 CARGO TANK	0
10.	BRIDGE CREW	3
11.	BRIDGE STORES	10
12.	BRIDGE F.W.	10

13.	#5 CARGO TANK	5486
14.	#6 BALLAST TANK	2408
15.	#7 CARGO/BALLAST TANK	5446
16.	#8 CARGO/BALLAST TANK	2410
17.	#9 CARGO/BALLAST TANK	5454
18.	#10 CARGO TANK	5349
19.	#11 CARGO TANK	5026
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	800
22.	AFT SETTLERS	360
23.	DISTILLED WATER	50
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	65
27.	AFT PEAK	0

A. 101.02 numeral
B. 91.36 numeral
C. 72.43 numeral
D. 52.60 numeral

ANS. D

2734 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability book to determine the hogging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	2867
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	3596
7.	#2 CARGO TANK	3996
8.	#3 CARGO TANK	4128
9.	#4 CARGO TANK	4146
10.	BRIDGE CREW	0
11.	BRIDGE STORES	0
12.	BRIDGE F.W.	0

13.	#5 CARGO TANK	0
14.	#6 BALLAST TANK	0
15.	#7 CARGO/BALLAST TANK	1821
16.	#8 CARGO/BALLAST TANK	2328
17.	#9 CARGO/BALLAST TANK	2303
18.	#10 CARGO TANK	4042
19.	#11 CARGO TANK	3798
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	850
22.	AFT SETTLERS	340
23.	DISTILLED WATER	60
24.	AFT STORES	80
25.	AFT CREW	7
26.	F.W. AFT	70
27.	AFT PEAK	0

A. 98.23 numeral
B. 95.70 numeral
C. 84.46 numeral
D. 81.37 numeral

ANS. B

3208 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	4759
7.	#2 CARGO TANK	5288
8.	#3 CARGO TANK	5463
9.	#4 CARGO TANK	0
10.	BRIDGE CREW	3

	DESCRIPTION	
11.	BRIDGE STORES	10
12.	BRIDGE F.W.	10
13.	#5 CARGO TANK	5486
14.	#6 BALLAST TANK	2408
15.	#7 CARGO/BALLAST TANK	5446
16.	#8 CARGO/BALLAST TANK	2410
17.	#9 CARGO/BALLAST TANK	5454
18.	#10 CARGO TANK	5349
19.	#11 CARGO TANK	5026
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	800
22.	AFT SETTLERS	360
23.	DISTILLED WATER	50
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	65
27.	AFT PEAK	0

A. 72.42 numeral
B. 78.98 numeral
C. 83.46 numeral
D. 91.48 numeral

ANS. B

3776 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	749
2.	DEEP TANK P/S	1747
3.	FWD STORES	6
4.	FWD BUNKERS	2867
5.	FWD COFFERDAM	338
6.	#1 CARGO TANK	0
7.	#2 CARGO TANK	0
8.	#3 CARGO TANK	0
9.	#4 CARGO TANK	0
10.	BRIDGE CREW	3
11.	BRIDGE STORES	10
12.	BRIDGE F.W.	10

13.	#5 CARGO TANK	0
14.	#6 BALLAST TANK	2595
15.	#7 CARGO/BALLAST TANK	3315
16.	#8 CARGO/BALLAST TANK	2595
17.	#9 CARGO/BALLAST TANK	2595
18.	#10 CARGO TANK	0
19.	#11 CARGO TANK	0
20.	AFT COFFERDAM	239
21.	AFT BUNKERS	859
22.	AFT SETTLERS	360
23.	DISTILLED WATER	60
24.	AFT STORES	80
25.	AFT CREW	7
26.	F.W. AFT	71
27.	AFT PEAK	394

A. 29.70 numeral
B. 33.63 numeral
C. 49.82 numeral
D. 58.33 numeral

ANS. A

4056 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

LONGITUDINAL BENDING STRESSES (PSI)

	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	2867
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	3596
7.	#2 CARGO TANK	3996
8.	#3 CARGO TANK	4128
9.	#4 CARGO TANK	4146
10.	BRIDGE CREW	0

11.	BRIDGE STORES	0
12.	BRIDGE F.W.	0
13.	#5 CARGO TANK	0
14.	#6 BALLAST TANK	0
15.	#7 CARGO/BALLAST TANK	1821
16.	#8 CARGO/BALLAST TANK	2328
17.	#9 CARGO/BALLAST TANK	2303
18.	#10 CARGO TANK	4042
19.	#11 CARGO TANK	3798
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	850
22.	AFT SETTLERS	340
23.	DISTILLED WATER	60
24.	AFT STORES	80
25.	AFT CREW	7
26.	F.W. AFT	70
27.	AFT PEAK	0

A. 89.75 numeral
B. 40.18 numeral
C. 28.62 numeral
D. 22.44 numeral

ANS. D

United States Coast Guard

LIST OF TABULAR QUESTIONS

TO BE ENTERED ON THE INTERNET

BOOK 4

FOLLOWED BY

BOOK 5

64 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	170 Tons
Upper tween deck layer	1800 Tons
Lower tween deck layer	2000 Tons
Hold layer	3200 Tons

A. 338 tons
B. 309 tons
C. 281 tons

D. 263 tons

ANS. D

151 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 50 drums of cement. Each drum weighs 600 pounds and is stowed on end. Each drum measures 28 inches in diameter and is 32 inches high.
II. Two reels of 1 inch diameter wire rope. Each reel contains 3000 linear feet of wire weighing 1.55 pounds per linear foot. The tare weight of each reel is 450 pounds. The reels are stowed on the flat and are 36 inches high.
III. Twelve pallets of general supplies. Each pallet measures 8'L X 4'W X 3'H. The pallets are stowed singly and weigh 580 pounds each.
IV. Twelve crates of machine parts and pipe fittings. Each weighs 880 pounds. Each crate measures 8'L X 3'W X 4'H and is stowed singly.

A. 1.50 feet
B. 1.96 feet
C. 2.21 feet
D. 2.78 feet

ANS. A

161 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Drill casing - 16 inches in diameter by 30 feet long. Twenty lengths each weighing 1.72 long tons and stowed in a single tier on deck.
II. Six pallets of oak planking - stowed two pallets high. Each pallet weighs 2.2 long tons. Each pallet is 3.0 feet high.
III. Crated piping and machine parts - 8 crates each 8'L X 4'W X 3'H. Each crate is stowed singly and weighs 660 pounds.
IV. Drill pipe - 6 inches in diameter by 30 feet long. 120 lengths, each weighing 0.644 long ton. The center of gravity of the pipes is 1.11 feet above

the main deck.

A. 2.15 feet
B. 1.83 feet
C. 1.64 feet
D. 1.19 feet

ANS. D

199 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Drill casing - 50 lengths stowed in a block 8 feet high. Each pipe weighs 326 lbs.
II. Crated valves - 10 crates stowed 2 high. Each crate is 36" L X 30" W X 15" H and weighs 1020 lbs.
III. Dry stores - 14 containers stowed 2 high. Each container weighs 2 long tons and measures 6'L X 6'W X 6'H.
IV. Anchors - 4. Each one on deck. The center of gravity of each anchor is 9" from the deck and each weighs 6120 lbs.

A. 3.6 feet
B. 4.2 feet
C. 4.4 feet
D. 4.9 feet

ANS. B

372 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	200 Tons
Upper tween deck layer	2800 Tons
Lower tween deck layer	1000 Tons
Hold layer	4300 Tons

A. 189 tons
B. 174 tons
C. 158 tons
D. No loading required

ANS. C

419 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	1805	269.0
FRESH WATER	230	303.6
DRY CARGO	7190	267.5
REEFER CARGO	195	354.0
DECK CARGO	155	60.2

A. FWD 23'-03", AFT 27'-00"
B. FWD 23'-07", AFT 26'-07"
C. FWD 24'-01", AFT 26'-02"
D. FWD 24'-06", AFT 25'-10"

ANS. A

431 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-04", AFT 31'-10". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

Load	200 tons	---180 feet fwd of amidships
Discharge	60 tons	--- 25 feet fwd of amidships
Discharge	80 tons	---165 feet aft of amidships
Discharge	40 tons	---230 feet aft of amidships

A. FWD 29'-01", AFT 31'-04"
B. FWD 29'-05", AFT 31'-00"
C. FWD 29'-08", AFT 30'-09"
D. FWD 29'-11", AFT 30'-07"

ANS. C

483 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4184 tons of cargo on board with a KG of 27.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	140
No. 2 Second Deck	80
No. 2 Third Deck	180
No. 2 Tank Top	360
No. 3 Tank Top	380

No. 4 Second Deck	240
No. 4 Third Deck	280
No. 4 Tank Top	470
No. 5 Upper Level Flat	80
No. 5 Third Deck	260
No. 5 Tank Top	410
No. 6 Second Deck	360

A. KG 25.8 feet
B. KG 26.6 feet
C. KG 27.2 feet
D. KG 28.0 feet

ANS. A

486 The SS AMERICAN MARINER arrived in port with drafts of: FWD28'-04", AFT 30'-11". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	200 tons	180 feet fwd of amidships
Discharge	60 tons	25 feet fwd of amidships
Load	80 tons	165 feet aft of amidships
Load	40 tons	200 feet aft of amidships

A. FWD 29'-01", AFT 30'-10"
B. FWD 29'-03", AFT 30'-08"
C. FWD 29'-07", AFT 30'-08"
D. FWD 29'-08", AFT 30'-06"

ANS. A

501 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	200 Tons
Upper tween deck layer	2800 Tons
Lower tween deck layer	3000 Tons
Hold layer	2300 Tons

A. 1292 tons
B. 1248 tons
C. 1211 tons
D. 1172 tons

ANS. B

511 The SS AMERICAN MARINER is loaded with the cargo shown. Use

the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	170 Tons
Upper tween deck layer	2800 Tons
Lower tween deck layer	2000 Tons
Hold layer	3200 Tons

A. 696 tons
B. 520 tons
C. 473 tons
D. 444 tons

ANS. A

512 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-08", AFT 29'-05". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

Load	225 tons	110 ft fwd of amidships
Discharge	120 tons	37 ft fwd of amidships
Load	125 tons	30 ft aft of amidships
Load	75 tons	200 ft aft of amidships

A. FWD 28'-10", AFT 29'-04"
B. FWD 29'-02", AFT 29'-07"
C. FWD 29'-04", AFT 29'-04"
D. FWD 29'-05", AFT 29'-08"

ANS. B

584 The SS AMERICAN MARINER arrived in port with drafts of: FWD28'-08", AFT 29'-05". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Discharge	120 tons	145 feet fwd of amidships
Load	160 tons	87 feet fwd of amidships
Discharge	85 tons	50 feet fwd of amidships
Discharge	100 tons	30 feet aft of amidships

A. FWD 28'-09", AFT 29'-00"
B. FWD 28'-07", AFT 29'-01"
C. FWD 28'-05", AFT 29'-08"

D. FWD 28'-04", AFT 29'-05"

ANS. D

591 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	2105 Tons
Fuel oil	1035 Tons
Fresh water	150 Tons
Ballast	100 Tons

A. 2.82 feet
B. 2.97 feet
C. 3.15 feet
D. 3.24 feet

ANS. D

641 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Two reels of hoisting wire. Each reel is 8 feet in circumference and 4 feet wide and has 3000 feet of wire. Both reels are stowed on the flat. Wire weighs 1.55 pounds per linear foot. The tare weight of each reel is 500 pounds.
II. Eight pallets of case goods stowed singly. Each pallet is 8'L X 4'W X 4'H and weighs 1 long ton.
III. 12 steel containers of cement. Each container weighs 1 1/2 tons. Each container is 8'L X 4'W X 4'H. The containers are stowed singly fore and aft.
IV. 10 crates of stewards stores. Each crate measures 4'L X 4'W 3'H and weighs 420 pounds. Each crate is stowed on deck.

A. 1.76 feet
B. 1.97 feet
C. 2.21 feet
D. 2.32 feet

ANS. B

722 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

ITEM	TONS	LCG-FP
F.O. & SALT WATER	2824	262.8
FRESH WATER	140	308.0
DRY CARGO	6290	268.5
REEFER CARGO	170	354.0
DECK CARGO	151	58.4

A. FWD 23'-03", AFT 27'-00"
B. FWD 23'-07", AFT 26'-07"
C. FWD 24'-01", AFT 26'-02"
D. FWD 24'-06", AFT 25'-10"

ANS. B

861 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	3215	263.2
FRESH WATER	185	312.0
DRY CARGO	7780	261.5
REEFER CARGO	70	350.8
DECK CARGO	155	353.0

A. FWD 26'-09", AFT 28'-00"
B. FWD 27'-00", AFT 27'-10"
C. FWD 27'-03", AFT 27'-07"
D. FWD 27'-06", AFT 27'-04"

ANS. A

911 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Twenty drums of lube oil stowed on end. Each drum weighs 436 pounds. Diameter of drums is 24 inches and their height is 30 inches overall.
II. General supplies - 26 boxes stowed 2 high. Each box weighs 360 pounds and measures 6'L X 3'W X 2'H.
III. One electric generator weighing 2684 lbs. Stowed so the center of gravity is 3.2 feet above the main deck.
IV. Casing pipe - 29 each. Each pipe weighs 1.7 long tons. The pipe is stacked 3 high across the main deck. The center of gravity of the 10 casings in the 3rd tier is 3.75 feet; the 9 casings in the second tier is 2.3 feet; the 10 casings in the lower tier is 0.833 foot.

A. 3.75 feet
B. 3.02 feet
C. 2.22 feet
D. 0.83 foot

ANS. C

941 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 2 Danforth mooring anchors. Each anchor weighs 15,750 pounds. The center of gravity is 15 inches above the main deck.
II. 90 fathoms of 3-inch diameter wire rope. The weight per linear foot is 18.7 pounds. The center of gravity of the wire is 22 inches above the main deck.
III. 10 cases of machine parts. Each case measures 6'L X 6'W X 4'H. The total weight of all of the cases is 6000 lbs. Each case is stowed on deck.
IV. 8 crates of galley stores. Each crate measures 4'L X 3'W X 2.5'H and weighs 380 pounds. Each crate is stowed on deck.

A. 0.96 foot
B. 1.45 feet

C. 1.96 feet
D. 2.96 feet

ANS. B

959 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Two reels of hoisting wire. Each reel is 8 feet in circumference and 4 feet wide. Both reels are stowed on the flat and each has 3000 feet of wire. Wire weighs 1.55 pounds per linear foot. Tare weight of each reel is 500 pounds.
II. Eight pallets of case goods stowed singly. Each pallet is 8'L X 4'W X 4'H and weighs 1 long ton.
III. 12 steel containers of cement. Each container weighs 1 1/2 long tons. Each container is 8'L X 4'W 4'H. The containers are stowed singly fore and aft.
IV. 10 crates of stewards stores. Each crate measures 4'L X 4'W X 3'H and weighs 420 pounds. Each crate is stowed on deck.

A. 2.32 feet
B. 2.21 feet
C. 1.97 feet
D. 1.76 feet

ANS. C

1009 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	8400 Tons
Fuel oil	3015 Tons
Fresh water	200 Tons
Ballast	450 Tons

A. 1.80 feet
B. 1.89 feet
C. 1.98 feet
D. 2.05 feet

ANS. C

1041 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 2685 tons of cargo on board with a KG of 27.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Main Deck	60
No. 2 Second Deck	90
No. 2 Tank Top	120
No. 3 Second Deck	90
No. 3 Third Deck	250
No. 3 Tank Top	400
No. 4 Second Deck	110
No. 5 Second deck	50
No. 5 Tank Top	480
No. 5 Upper Reefer	90
No. 6 Second Deck	120
No. 7 Third Deck	250

A. KG 25.4 feet
B. KG 26.0 feet
C. KG 26.6 feet
D. KG 27.2 feet

ANS. B

1049 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	1853 Tons
Fuel oil	1324 Tons
Fresh water	130 Tons
Ballast	370 Tons

A. 2.62 feet
B. 2.82 feet
C. 2.97 feet
D. 3.15 feet

ANS. D

1060 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

ITEM	TONS	LCG-FP
F.O. & SALT WATER	3215	263.2
FRESH WATER	185	312.0
DRY CARGO	7880	263.5
REEFER CARGO	170	350.8
DECK CARGO	155	223.0

A. FWD 26'-06", AFT 28'-10"
B. FWD 26'-10", AFT 28'-05"
C. FWD 27'-00", AFT 28'-03"
D. FWD 27'-03", AFT 28'-00"

ANS. C

1090 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	8040 Tons
Fuel oil	3115 Tons
Fresh water	200 Tons

A. 1.80 feet
B. 1.89 feet
C. 1.98 feet

D. 2.05 feet

ANS. D

1091 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	3390 Tons
Fuel oil	2580 Tons
Fresh water	175 Tons
Ballast	345 Tons

A. 2.49 feet
B. 2.38 feet
C. 2.27 feet
D. 2.05 feet

ANS. B

1141 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Motor generator - one unit weighing 4850 pounds. The center of gravity is 32 inches above the main deck.
II. 50 drums of cement - each drum weighs 400 pounds and is stowed on end. Each drum is 28 inches in diameter and 32 inches high.
III. Ten pallets of cased lube oil - each pallet measures 8'L X 4'W X 4'H. Each pallet is stowed on deck and weighs 2.7 long tons.
IV. Drill collars - 10 lengths each 8" in diameter by 30 feet long. Stowed in a single layer on deck. Each length weighs 1.15 long tons.

A. 2.15 feet
B. 2.05 feet
C. 1.85 feet
D. 1.52 feet

ANS. D

1159 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3315 tons of cargo on board with a KG of 27.0 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Main Deck	100
No. 1 Third Deck	60
No. 2 Second Deck	90
No. 3 Second Deck	120
No. 3 Third Deck	30
No. 3 Tank Top	230
No. 4 Second Deck	120
No. 5 Upper Level Flat	110
No. 5 Third Deck	140
No. 5 Upper Reefer	90
No. 5 Third Deck Reefer	110
No. 7 Second Deck	240

A. KG 26.2 feet
B. KG 27.4 feet
C. KG 28.6 feet
D. KG 30.1 feet

ANS. C

1171 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	2345 Tons
Fuel oil	1324 Tons
Fresh water	170 Tons
Ballast	400 Tons

A. 2.62 feet
B. 2.82 feet

C. 2.97 feet
D. 3.15 feet

ANS. C

1177 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Intermediate drill casing - 10 lengths each 16 inches in diameter. Each length weighs 1.7 long tons. The center of gravity above the main deck of the casing stow is 1.8 feet.
II. Crated machine parts and assorted pipe fittings - 6 crates stowed two high. Each crate is 4'L X 3.5'W X 3'H. Each crate weighs 840 lbs.
III. 10 each - 55 gallon drums of lube oil stowed on end. Each drum weighs 462 pounds, is 26 inches in diameter and 32 inches high.
IV. Dry stores - 12 containers stowed two high. Each container weighs 0.9 long ton and measures 6'L X 4'W X 3'H.

A. 1.20 feet
B. 1.64 feet
C. 2.26 feet
D. 3.00 feet

ANS. C

1181 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4145 tons of cargo on board with a KG of 25.5 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	80
No. 2 Second Deck	100
No. 2 Third Deck	70
No. 2 Tank Top	340
No. 3 Third Deck	120
No. 3 Tank Top	260
No. 4 Second Deck	70
No. 4 Tank Top	220
No. 5 Second Deck	120

No. 5 Tank Top	380
No. 6 Third Deck	260
No. 7 Second Deck	340

A. KG 25.0 feet
B. KG 25.6 feet
C. KG 26.2 feet
D. KG 26.8 feet

ANS. B

1189 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	2860 Tons
Fuel oil	1324 Tons
Fresh water	170 Tons
Ballast	400 Tons

A. 2.62 feet
B. 2.82 feet
C. 2.97 feet
D. 3.15 feet

ANS. B

1291 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of THe Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	5390 Tons
Fuel oil	2890 Tons
Fresh water	275 Tons
Ballast	945 Tons

A. 1.82 feet
B. 1.96 feet

C. 2.05 feet
D. 2.17 feet

ANS. A

1293 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	3035 Tons
Fuel oil	1775 Tons
Fresh water	270 Tons
Ballast	440 Tons

A. 2.62 feet
B. 2.82 feet
C. 2.97 feet
D. 3.15 feet

ANS. A

1313 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3224 tons of cargo on board with a KG of 29.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Main Deck	80
No. 2 Third Deck	220
No. 2 Tank Top	315
No. 3 Second Deck	305
No. 3 Third Deck	220
No. 3 Tank Top	480
No. 4 Second Deck	150
No. 4 Third Deck	260
No. 5 Upper Level Flat	120

No. 5 Tank Top	360
No. 6 Second Deck	320
No. 7 Second Deck	440

A. KG 27.2 feet
B. KG 27.8 feet
C. KG 28.4 feet
D. KG 29.0 feet

ANS. D

1350 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 50 drums of cement - each drum weighs 400 pounds and is stowed on end. Each drum is 28 inches in diameter and 32 inches high.
II. Crated piping and valves - 8 crates stowed 2 high. Each crate measures 8'L X 4'W X 2.5'H and weighs 640 pounds.
III. Stewards stores - 12 containers measuring 6'H X 6'W X 6'L. Each container weighs 960 pounds. The center of gravity of each container is 30 inches above the main deck.
IV. 20 lengths of drill casing - 16 inches in diameter by 30 feet long. Each length weighs 1.72 long tons and is stowed in a single tier on deck.

A. 2.45 feet
B. 1.95 feet
C. 1.05 feet
D. 0.90 foot

ANS. C

1409 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed as LOAD 109 will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	3450 Tons
Fuel oil	1970 Tons
Fresh water	220 Tons
Ballast	440 Tons

A. 1.91 feet
B. 2.09 feet

C. 2.21 feet
D. 2.48 feet

ANS. D

1430 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 6422 tons of cargo on board with a KG of 26.6 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Third Deck	80
No. 2 Second Deck	140
No. 2 Tank Top	360
No. 3 Second Deck	40
No. 3 Third Deck	220
No. 3 Tank Top	490
No. 4 Second Deck	80
No. 5 Upper Level Flat	110
No. 5 Third Deck	140
No. 5 Tank Top	550
No. 5 Upper Reefer	85
No. 6 Third Deck	260

A. KG 24.9 feet
B. KG 25.5 feet
C. KG 26.1 feet
D. KG 28.9 feet

ANS. A

1480 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 116 lengths of drill pipe. Each pipe weighs 0.644 long ton. The center of gravity is 1.11 feet above the main deck.
II. 10 containers 8'L X 4'W X 3'H containing assorted pipe fittings and machine parts. Each container weighs 1-1/4 long tons, and the center of gravity of each box is 1.35 feet above the main deck.
III. Two 90-fathom lengths of 3-inch diameter wire rope coiled on the main deck. Each foot of wire rope weighs 18.7 pounds. The center of gravity of the coil is 27 inches above the main deck.
IV. 6 pallets of oak planking. Each pallet weighs 2-1/2 long tons with a center of gravity of 2.2 feet

above the main deck.

A. 2.23 feet
B. 1.93 feet
C. 1.82 feet
D. 1.38 feet

ANS. D

1500 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of THe Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2824	7.5
FRESH WATER	160	21.0
DRY CARGO	7190	27.0
REEFER CARGO	170	29.2
DECK CARGO	155	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		15138

A. Available GM 6.9 ft
B. Available GM 5.3 ft
C. Available GM 4.1 ft
D. Available GM 3.8 ft

ANS. C

1542 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of THe Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	4780 Tons
Fuel oil	1970 Tons
Fresh water	110 Tons
Ballast	390 Tons

A. 1.91 feet
B. 2.09 feet
C. 2.21 feet
D. 2.48 feet

ANS. C

1568 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 2464 tons of cargo on board with a KG of 27.3 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	80
No. 2 Second Deck	140
No. 2 Third Deck	240
No. 2 Tank Top	460
No. 4 Second Deck	180
No. 4 Third Deck	160
No. 4 Tank Top	70
No. 5 Second Deck	320
No. 5 Third Deck (Reefer)	180
No. 6 Second Deck	220
No. 6 Third Deck	360
No. 7 Second Deck	90
No. 7 Third Deck	50

A. KG 27.0 feet
B. KG 27.8 feet
C. KG 28.6 feet
D. KG 29.8 feet

ANS. C

1589 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3284 tons of cargo on board with a KG of 26.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	140
No. 2 Second Deck	80
No. 2 Third Deck	260
No. 3 Second Deck	180
No. 3 Third Deck	320
No. 3 Tank Top	480
No. 4 Second Deck	90
No. 4 Tank Top	90
No. 5 Second Deck	260
No. 5 Third Deck	380
No. 5 Tank Top	580
No. 6 Third Deck	360

A. KG 25.0 feet
B. KG 25.5 feet
C. KG 26.1 feet
D. KG 26.7 feet

ANS. B

1606 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	5455 Tons
Fuel oil	1970 Tons
Fresh water	100 Tons
Ballast	390 Tons

A. 1.91 feet
B. 2.09 feet
C. 2.21 feet
D. 2.48 feet

ANS. B

1666 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	5880 Tons
Fuel oil	2210 Tons
Fresh water	200 Tons
Ballast	600 Tons

A. 1.91 feet
B. 2.09 feet
C. 2.21 feet
D. 2.48 feet

ANS. A

1866 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	3710	7.5
FRESH WATER	115	21.0
DRY CARGO	7815	27.0
REEFER CARGO	175	29.2
DECK CARGO	120	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		9640

A. Available GM 5.0 ft
B. Available GM 5.4 ft
C. Available GM 6.1 ft
D. Available GM 6.8 ft

ANS. B

1913 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 15'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	7325 Tons
Fuel oil	2210 Tons
Fresh water	200 Tons
Ballast	100 Tons

A. 1.77 feet
B. 1.91 feet
C. 2.09 feet
D. 2.21 feet

ANS. A

2047 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	350 Tons
Upper tween deck layer	1700 Tons
Lower tween deck layer	2900 Tons
Hold layer	3400 Tons

A. 280 tons
B. 395 tons
C. 750 tons
D. 990 tons

ANS. A

2098 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	350 Tons
Upper tween deck layer	1780 Tons
Lower tween deck layer	1990 Tons
Hold layer	3230 Tons

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons

ANS. A

2113 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 2865 tons of cargo on board with a KG of 27.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Third Deck	220
No. 2 Second Deck	140
No. 2 Third Deck	80
No. 3 Second Deck	240
No. 3 Third Deck	220
No. 3 Tank Top	280
No. 4 Second Deck	260
No. 4 Third Deck	180

No. 4 Tank Top	210
No. 5 Third Deck	340
No. 6 Second Deck	260
No. 7 Third Deck	240

A. KG 26.2 feet
B. KG 27.4 feet
C. KG 28.5 feet
D. KG 29.5 feet

ANS. C

2135 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	190 Tons
Upper tween deck layer	1740 Tons
Lower tween deck layer	1420 Tons
Hold layer	2840 Tons

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons

ANS. B

2151 The SS AMERICAN MARINER is ready to sail with Lthe load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2824	7.5
FRESH WATER	160	21.0
DRY CARGO	7190	27.0
REEFER CARGO	170	29.2
DECK CARGO	155	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		20972

A. Available GM 6.9 ft
B. Available GM 5.3 ft

C. Available GM 4.1 ft
D. Available GM 3.8 ft

ANS. D

2220 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	220 Tons
Upper tween deck layer	1950 Tons
Lower tween deck layer	1300 Tons
Hold layer	2750 Tons

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons

ANS. C

2256 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	1906	7.5
FRESH WATER	140	21.0
DRY CARGO	4286	27.0
REEFER CARGO	125	29.2
DECK CARGO	140	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		11468

A. Available GM 6.8 ft
B. Available GM 5.4 ft
C. Available GM 4.1 ft

D. Available GM 3.6 ft

ANS. D

2298 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3684 tons of cargo on board with a KG of 28.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 2 Second Deck	140
No. 2 Third Deck	220
No. 2 Tank Top	140
No. 3 Second Deck	180
No. 3 Third Deck	160
No. 3 Tank top	160
No. 4 Second Deck	110
No. 4 Tank Top	420
No. 5 Upper Level Flat	90
No. 5 Third Deck	170
No. 6 Second Deck	180
No. 6 Third Deck	310

A. KG 27.0 feet
B. KG 27.6 feet
C. KG 28.2 feet
D. KG 28.8 feet

ANS. B

2302 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	1906	7.5
FRESH WATER	140	21.0
DRY CARGO	4286	27.0
REEFER CARGO	125	29.2
DECK CARGO	140	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		4157

A. Available GM 6.8 ft
B. Available GM 5.4 ft
C. Available GM 4.1 ft

D. Available GM 3.6 ft

ANS. C

2317 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	81.9	DB 7 S	94.6
DB 4 CL	224.1	DT 2 P	100.7
DB 4 P	128.1	DT 2 S	100.7
DB 4 S	128.1	DT 3 P	86.1
DB 5 CL	196.2	DT 3 S	86.1
DB 5 P	178.0	DT 4 P/S	110.0
DB 5 S	180.0	DT 5 P/S	108.4
DB 6 CL	242.3	DIS/WATER	24.9

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.6 feet

ANS. A

2325 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	250 Tons
Upper tween deck layer	1520 Tons
Lower tween deck layer	1410 Tons
Hold layer	2070 Tons

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons

ANS. D

2329 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2608	7.5
FRESH WATER	80	21.0
DRY CARGO	5469	27.0
REEFER CARGO	225	29.2
DECK CARGO	113	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		15585

A. Available GM 3.2 ft
B. Available GM 3.9 ft
C. Available GM 4.8 ft
D. Available GM 5.3 ft

ANS. B

2341 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2824	7.5
FRESH WATER	80	21.0
DRY CARGO	4286	27.0
REEFER CARGO	225	29.2
DECK CARGO	155	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		15585

A. Available GM 5.26 ft
B. Available GM 4.24 ft
C. Available GM 4.11 ft

D. Available GM 4.01 ft

ANS. B

2368 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	1805	269.0
FRESH WATER	185	312.0
DRY CARGO	6290	268.5
REEFER CARGO	170	354.5
DECK CARGO	155	223.0

A. FWD 22'-02", AFT 25'-08"
B. FWD 21'-07", AFT 26'-03"
C. FWD 20'-11", AFT 26'-09"
D. FWD 20'-09", AFT 26'-11"

ANS. C

2415 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	320 Tons
Upper tween deck layer	1320 Tons
Lower tween deck layer	1010 Tons
Hold layer	1670 Tons

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons

ANS. A

2443 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DB 6 CL	242.3
DB 1A CL	81.9	DB 7 P	94.6
DB 3 P	55.6	DB 7 S	94.6
DB 3 S	55.6	DT 3 P	86.1
DB 4 CL	224.1	DT 3 S	86.1
DB 4 P	128.1	DT 4 P/S	120.0
DB 4 S	128.1	DT 5 P/S	108.4
DB 5 CL	196.2		

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet

ANS. D

2464 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 2 P	71.2	DB 5 P	178.0
DB 2 S	71.2	DB 5 S	180.0
DB 3 CL	220.0	DB 6 CL	242.3
DB 3 P	55.6	DB 6 P	87.0
DB 3 S	55.6	DB 6 S	87.0
DB 4 CL	224.1	DB 7 P	94.6
DB 4 P	128.1	DB 7 S	94.6
DB 4 S	128.1	DT 4 P/S	110.0
DB 5 CL	196.2	DT 5 P/S	108.4

A. 3.9 feet
B. 4.3 feet
C. 4.7 feet
D. 5.1 feet

ANS. B

2486 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	3710	7.5
FRESH WATER	115	21.0
DRY CARGO	7815	27.0
REEFER CARGO	175	29.2
DECK CARGO	120	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		17706

A. Available GM 5.0 ft
B. Available GM 5.4 ft
C. Available GM 6.1 ft
D. Available GM 6.8 ft

ANS. A

2493 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	280 Tons
Upper tween deck layer	1320 Tons
Lower tween deck layer	1260 Tons
Hold layer	1420 Tons

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons

ANS. B

2518 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DB 6 P	87.0
DB 1A CL	81.9	DB 6 S	87.0
DB 2 P	71.2	DB 7 P	94.6
DB 2 S	71.2	DB 7 S	94.6
DB 4 CL	224.1	DT 3 P	86.1
DB 4 P	128.1	DT 3 S	86.1
DB 4 S	128.1	DT 4 P/S	120.0
DB 5 CL	196.2		

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet

ANS. C

2525 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2824	7.5
FRESH WATER	80	21.0
DRY CARGO	4286	27.0
REEFER CARGO	225	29.2
DECK CARGO	155	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		17604

A. Available GM 5.26 ft
B. Available GM 4.24 ft
C. Available GM 4.11 ft

D. Available GM 4.01 ft

ANS. C

2526 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2710	7.5
FRESH WATER	115	21.0
DRY CARGO	7815	27.0
REEFER CARGO	175	29.2
DECK CARGO	120	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		17706

A. Available GM 4.2 ft
B. Available GM 3.9 ft
C. Available GM 3.7 ft
D. Available GM 3.5 ft

ANS. B

2527 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	210 Tons
Upper tween deck layer	1220 Tons
Lower tween deck layer	910 Tons
Hold layer	870 Tons

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons

ANS. C

2608 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	3670	7.5
FRESH WATER	140	21.0
DRY CARGO	5965	27.0
REEFER CARGO	265	29.2
DECK CARGO	115	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD	20219	

A. Available GM 6.3 ft
B. Available GM 5.7 ft
C. Available GM 5.3 ft
D. Available GM 4.8 ft

ANS. D

2610 The SS AMERICAN MARINER arrived in port with drafts of: FWD 21'-06.5", AFT 23'-05.4". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

Discharge 170 tons--150 ft fwd of amidships
Load 220 tons--100 ft fwd of amidships
Load 160 tons--75 ft aft of amidships
Discharge 80 tons--225 ft aft of amidships

A. FWD 21'-07.1", AFT 23'-08.9"
B. FWD 21'-05.9", AFT 23'-01.9"
C. FWD 21'-03.0", AFT 23'-04.8"
D. FWD 21'-10.0", AFT 23'-06.0"

ANS. D

2619 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	320 Tons
Upper tween deck layer	820 Tons
Lower tween deck layer	910 Tons
Hold layer	270 Tons

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons

ANS. D

2659 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2608	7.5
FRESH WATER	80	21.0
DRY CARGO	5469	25.2
REEFER CARGO	225	29.2
DECK CARGO	113	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		18585

A. Available GM 4.3 ft
B. Available GM 4.1 ft
C. Available GM 3.9 ft

D. Available GM 3.6 ft

ANS. A

2677 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DB 6 CL	242.3
DB 1A CL	81.9	DB 6 P	87.0
DB 3 P	55.6	DB 6 S	87.0
DB 3 S	55.6	DB 7 P	94.6
DB 4 CL	224.1	DB 7 S	94.6
DB 4 P	128.1	DT 3 P	86.1
DB 4 S	128.1	DT 3 S	86.1
DB 5 CL	196.2	DT 4 P/S	120.0

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet

ANS. B

2693 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stabiliry Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	250 Tons
Upper tween deck layer	1320 Tons
Lower tween deck layer	310 Tons
Hold layer	370 Tons

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1912.5 tons

ANS. D

2705 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DB 4 S	128.1
DB 2 P	71.2	DB 5 CL	196.2
DB 2 S	71.2	DB 6 CL	242.3
DB 3 P	55.6	DB 7 P	94.6
DB 3 S	55.6	DB 7 S	94.6
DB 4 CL	224.1	DT 5 P/S	108.4
DB 4 P	128.1		

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet

ANS. A

2707 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2024	7.5
FRESH WATER	160	21.0
DRY CARGO	7090	27.4
REEFER CARGO	170	29.2
DECK CARGO	155	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		15538

A. Available GM 3.8 ft
B. Available GM 3.6 ft
C. Available GM 3.3 ft

D. Available GM 3.1 ft

ANS. D

2740 The SS AMERICAN MARINER arrived in port with drafts of: FWD 19'-06.6", AFT 20'-05.6". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference book to determine the final drafts.

Load	170 tons--165 ft fwd of amidships
Load	150 tons--120 ft fwd of amidships
Load	160 tons--112 ft aft of amidships
Load	155 tons--202 ft aft of amidships

A. FWD 20'-06.6", AFT 21'-00.4"
B. FWD 18'-06.6", AFT 19'-09.8"
C. FWD 18'-10.8", AFT 20'-05.6"
D. FWD 20'-03.4", AFT 21'-05.6"

ANS. A

2774 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	1906	7.5
FRESH WATER	140	21.0
DRY CARGO	4826	27.3
REEFER CARGO	125	29.2
DECK CARGO	140	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		14168

A. Available GM 3.8 ft
B. Available GM 3.5 ft
C. Available GM 3.2 ft
D. Available GM 2.9 ft

ANS. C

2775 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-08", AFT 29'-05". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load 120 tons---145 feet fwd of amidships
Discharge 160 tons--- 38 feet fwd of amidships
Load 85 tons--- 35 feet aft of amidships
Discharge 170 tons---205 feet aft of amidships

A. FWD 28'-11", AFT 28'-11"
B. FWD 29'-01", AFT 28'-09"
C. FWD 29'-03", AFT 28'-07"
D. FWD 29'-05", AFT 28'-05"

ANS. D

2820 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	3865	280.0
FRESH WATER	140	308.0
DRY CARGO	6200	254.0
REEFER CARGO	265	351.0
DECK CARGO	151	58.4

A. FWD 26'-02", AFT 26'-08"
B. FWD 25'-09", AFT 27'-02"
C. FWD 25'-03", AFT 28'-09"
D. FWD 24'-11", AFT 29'-11"

ANS. B

2837 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DB 7 S	94.6
DB 2 P	71.2	DT 2 P	100.0
DB 2 S	71.2	DT 2 S	100.0
DB 3 P	55.6	DT 3 P	86.0
DB 3 S	55.6	DT 3 S	86.0
DB 4 CL	224.1	DT 4 P/S	120.0
DB 5 CL	196.2	DT 5 P/S	108.4
DB 6 CL	242.3	DT 6 P	201.0
DB 7 P	94.6	DT 6 S	201.0

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.6 feet

ANS. B

2845 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	2120	298.0
FRESH WATER	250	297.0
DRY CARGO	9111	264.7
REEFER CARGO	210	350.0
DECK CARGO	95	60.0

A. FWD 27'-01", AFT 25'-08"
B. FWD 29'-09", AFT 25'-09"
C. FWD 25'-09", AFT 30'-05"
D. FWD 25'-06", AFT 30'-00"

ANS. D

2868 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stabiity Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	81.9	DB 7 S	94.6
DB 2 P	71.2	DT 1A CL	150.0
DB 2 S	71.2	DT 2 P	50.0
DB 3 CL	227.6	DT 2 S	50.0
DB 3 P	55.6	DT 6 P	201.2
DB 3 S	55.6	DT 6 S	201.2
DB 4 CL	224.1		
DB 4 P	128.1		
DB 4 S	128.1		
DB 5 CL	180.0		
DB 6 CL	242.3		

A. 0.52 foot
B. 0.70 foot
C. 0.84 foot
D. 1.10 feet

ANS. C

2912 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 6 CL	242.3
DB 1A CL	81.9	DB 7 P	94.6
DB 2 P	71.2	DB 7 S	94.6
DB 2 S	71.2	DT 1 CL	125.3
DB 3 CL	227.6	DT 1A CL	257.6
DB 3 P	55.6	DT 2 P	80.0
DB 3 S	55.6	DT 2 S	80.0
DB 4 CL	224.1	DT 6 P	201.2
DB 4 P	128.1	DT 6 S	201.2
DB 4 S	128.1	DT 7 P	128.8
		DT 7 S	128.8

A. 0.68 foot
B. 0.85 foot
C. 0.97 foot

D. 1.30 feet

ANS. A

2913 The SS AMERICAN MARINER arrived in port with drafts of: FWD 21'-09.5", AFT 22'-09.5". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

Load	170 tons	120 ft fwd of amidships
Discharge	100 tons	28 ft fwd of amidships
Discharge	70 tons	122 ft aft of amidships
Load	200 tons	163 ft aft of amidships

A. FWD 21'-06.6", AFT 22'-06.6"
B. FWD 22'-00.4", AFT 23'-00.4"
C. FWD 22'-06.6", AFT 21'-06.6"
D. FWD 23'-00.4", AFT 22'-00.4"

ANS. B

2923 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2608	8.5
FRESH WATER	80	20.0
DRY CARGO	5469	25.5
REEFER CARGO	225	28.2
DECK CARGO	113	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		17531

A. Available GM 4.01 ft
B. Available GM 4.16 ft
C. Available GM 4.69 ft

D. Available GM 4.81 ft

ANS. B

2956 The SS AMERICAN MARINER arrived in port with drafts of: FWD 21'-10.6", AFT 22'-11.6". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stabiiity Data Reference Book to determine the final drafts.

Discharge	280 tons	200 ft fwd of amidships
Load	150 tons	150 ft fwd of amidships
Load	150 tons	100 ft fwd of amidships
Discharge	90 tons	247 ft aft of amidships

A. FWD 22'-00.1", AFT 23'-00.1"
B. FWD 21'-11.0", AFT 23'-01.2"
C. FWD 21'-10.0", AFT 22'-10.0"
D. FWD 21'-08.9", AFT 22'-11.1"

ANS. C

2962 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	960	294.0
FRESH WATER	150	299.0
DRY CARGO	4880	265.0
REEFER CARGO	200	354.0
DECK CARGO	70	60.0

A. FWD 17'-06", AFT 24'-03"
B. FWD 19'-03", AFT 22'-06"
C. FWD 17'-01", AFT 24'-08"
D. FWD 21'-04", AFT 19'-07"

ANS. A

2982 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	81.9	DB 7 S	94.6
DB 2 P	71.2	DT 1 CL	125.3
DB 2 S	71.2	DT 1A CL	257.6
DB 3 CL	227.6	DT 2 P	78.5
DB 3 P	55.6	DT 2 S	78.5
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	224.1	DT 6 S	201.2
DB 4 P	128.1	DT 7 P	128.8
DB 4 S	128.1	DT 7 S	128.8
DB 6 CL	242.3	DT 8 P	50.5
		DT 8 S	50.5

A. 1.20 feet
B. 0.92 foot
C. 0.73 foot
D. 0.61 foot

ANS. C

2990 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-04", AFT 30'-08". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	180 tons	---155 feet fwd of amidships
Discharge	160 tons	--- 38 feet fwd of amidships
Load	140 tons	--- 75 feet aft of amidships
Discharge	170 tons	---205 feet aft of amidships

A. FWD 29'-01", AFT 30'-01"
B. FWD 29'-03", AFT 29'-11"
C. FWD 29'-05", AFT 29'-09"
D. FWD 29'-07", AFT 29'-07"

ANS. C

2996 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 4 CL	224.1	DT 2 P	100.7
DB 4 P	128.1	DT 2 S	100.7
DB 4 S	128.1	DT 3 P	86.1
DB 5 CL	180.0	DT 3 S	86.1
DB 5 P	178.0	DT 4 P/S	105.0
DB 5 S	180.0	DT 5 P/S	108.4
DB 6 CL	242.3	DIS/WATER	20.0
DB 6 P	87.0		
DB 6 S	87.0		

A. 286.1 ft
B. 282.7 ft
C. 278.6 ft
D. 272.4 ft

ANS. B

3006 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	1300	280.5
FRESH WATER	230	298.0
DRY CARGO	8412	260.5
REEFER CARGO	310	355.5
DECK CARGO	150	55.0

A. FWD 26'-03", AFT 27'-08"
B. FWD 26'-08", AFT 25'-07"
C. FWD 25'-06", AFT 26'-11"

D. FWD 26'-11", AFT 25'-06"

ANS. C

3008 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 2 P	71.2	DB 6 CL	242.3
DB 2 S	71.2	DB 6 P	87.0
DB 3 CL	227.6	DB 6 S	87.0
DB 3 P	55.6	DB 7 P	90.0
DB 3 S	55.6	DB 7 S	90.0
DB 4 CL	224.1	DT 3 P	86.1
DB 4 P	128.1	DT 3 S	86.1
DB 4 S	128.1	DT 6 P	201.2
DB 5 CL	196.2	DT 6 S	201.2
DB 5 P	178.0	DT 4 P/S	100.0
DB 5 S	180.0	DT 5 P/S	108.4
		DIS/WATER	20.0

A. 280.2 ft
B. 284.1 ft
C. 285.3 ft
D. 286.2 ft

ANS. D

3010 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2608	8.5
FRESH WATER	80	20.0
DRY CARGO	5469	25.5
REEFER CARGO	225	28.2
DECK CARGO	113	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		18993

A. Available GM 4.07 ft
B. Available GM 4.60 ft
C. Available GM 4.69 ft
D. Available GM 4.81 ft

ANS. A

3030 The SS AMERICAN MARINER has the liquid loading shown. Use

the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DT 2 P	100.0
DB 1A CL	81.9	DT 2 S	100.0
DB 2 P	71.2	DT 3 P	86.0
DB 2 S	71.2	DT 3 S	86.0
DB 3 P	55.6	DT 4 P/S	120.0
DB 3 S	55.6	DT 5 P/S	108.4
DB 5 CL	196.2	DT 6 P	201.0
DB 7 P	94.6	DT 6 S	201.0
DB 7 S	94.6		

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.6 feet

ANS. D

3036 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 2 P	71.2	DB 5 CL	196.2
DB 2 S	71.2	DB 5 P	178.0
DB 3 CL	220.0	DB 5 S	180.0
DB 3 P	55.6	DB 6 CL	242.3
DB 3 S	55.6	DB 6 P	87.0
DB 4 CL	224.1	DB 6 S	87.0
DB 4 P	128.1	DB 7 P	94.6
DB 4 S	128.1	DB 7 S	94.6
		DT 4 P/S	110.0
		DT 5 P/S	108.4

A. 262.3 ft
B. 264.9 ft
C. 268.1 ft
D. 270.3 ft

ANS. C

3038 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 5 CL	180.0
DB 1A CL	81.9	DB 5 P	178.0
DB 2 P	71.2	DB 5 S	180.0
DB 2 S	71.2	DB 6CL	242.3

DB 3 CL	227.6	DB 7 P	94.6
DB 3 P	55.6	DB 7 S	94.6
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	200.0	DT 6 S	201.2
DB 4 P	128.1	DT 7 P	128.8
DB 4 S	128.1	DT 7 S	128.8

A. 1.10 feet
B. 0.91 foot
C. 0.72 foot
D. 0.68 foot

ANS. B

3042 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 4 CL	224.1	DB 6 CL	200.0
DB 4 P	128.1	DB 6 P	87.0
DB 4 S	128.1	DB 6 S	87.0
DB 5 CL	196.2	DT 1A CL	257.6
DB 5 P	178.0	DT 5 P/S	108.4
DB 5 S	180.0		

A. 271.2 ft
B. 260.3 ft
C. 251.9 ft
D. 247.2 ft

ANS. C

3072 The SS AMERICAN MARINER has on board 6450 tons of cargo with an LCG-FP of 274.46 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Second Deck	60
No. 1 Third Deck	70
No. 2 Second Deck	40
No. 2 Tank Top	100
No. 3 Third Deck	60
No. 3 Tank Top	70
No. 4 Second Deck	50
No. 4 Tank Top	80
No. 5 Second Deck	60
No. 5 Tank Top	60
No. 6 Second Deck	100
No. 7 Third Deck	80

A. LCG-FP 272.6 feet
B. LCG-FP 269.8 feet
C. LCG-FP 266.5 feet
D. LCG-FP 263.8 feet

ANS. B

3073 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-04", AFT 29'-10". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Discharge 240 tons---155 feet fwd of amidships
Discharge 160 tons--- 38 feet fwd of amidships
Load 115 tons--- 35 feet aft of amidships
Discharge 170 tons---205 feet aft of amidships

A. FWD 27'-01", AFT 29'-11"
B. FWD 27'-03", AFT 29'-09"
C. FWD 27'-05", AFT 29'-07"
D. FWD 27'-07", AFT 29'-05"

ANS. B

3076 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stablity Data Reference Book to determine the free surface correction.

DB 3 CL	180.0	DT 2 P	80.0
DB 3 P	55.6	DT 2 S	80.0
DB 3 S	55.6	DT 3 P	86.1
DB 4 CL	224.1	DT 3 S	86.1
DB 4 P	128.1	DT 6 P	201.2
DB 4 S	128.1	DT 6 S	201.2
DB 5 CL	180.0		
DB 5 P	178.0		
DB 5 S	180.0		

A. 0.87 foot
B. 0.98 foot
C. 1.14 feet
D. 1.25 feet

ANS. C

3083 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DT 2 P	100.0

DB 1A CL	81.9	DT 2 S	100.0
DB 2 P	71.2	DT 3 P	86.0
DB 2 S	71.2	DT 3 S	86.0
DB 3 P	55.6	DT 4 P/S	120.0
DB 3 S	55.6	DT 5 P/S	108.4
DB 5 CL	196.2	DT 6 P	201.0
DB 7 P	87.0	DT 6 S	201.0
DB 7 S	87.0		

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.7 feet

ANS. D

3106 The SS AMERICAN MARINER has on board 5480 tons of cargo with an LCG-FP of 272.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Second Deck	70
No. 1 Third Deck	70
No. 2 Third Deck	80
No. 2 Tank Top	65
No. 3 Third Deck	55
No. 3 Tank Top	80
No. 4 Second Deck	50
No. 4 Tank Top	90
No. 5 Upper Level Flat	70
No. 5 Tank Top	70
No. 6 Second Deck	80
No. 6 Third Deck	60

A. LCG-FP 272.2 feet
B. LCG-FP 268.3 feet
C. LCG-FP 265.1 feet
D. LCG-FP 263.4 feet

ANS. C

3109 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 1 CL	48.2	DB 5 CL	196.2
DB 1A CL	81.9	DB 6 CL	242.3
DB 2 P	71.2	DB 6 P	87.0
DB 2 S	71.2	DB 6 S	87.0
DB 3 CL	227.6	DB 7 P	94.6
DB 4 CL	224.1	DB 7 S	94.6
DB 4 P	128.1	DT 4 P/S	120.0
DB 4 S	128.1		

A. 3.9 feet
B. 4.3 feet
C. 4.7 feet
D. 5.1 feet

ANS. A

3118 The SS AMERICAN MARINER has on board 4850 tons of cargo with an LCG-FP of 275.72 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Third Deck	150
No. 2 Tank Top	100
No. 3 Third Deck	75
No. 3 Tank Top	50
No. 4 Second Deck	80
No. 4 Third Deck	100
No. 5 Third Deck	90
No. 5 Tank Top	100
No. 6 Third Deck	120

A. LCG-FP 268.3 feet
B. LCG-FP 265.4 feet
C. LCG-FP 261.2 feet
D. LCG-FP 256.9 feet

ANS. A

3141 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2608	8.5
FRESH WATER	80	20.0
DRY CARGO	5469	25.5
REEFER CARGO	225	28.2
DECK CARGO	113	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		15585

A. Available GM 4.81 ft
B. Available GM 4.69 ft
C. Available GM 4.60 ft
D. Available GM 4.28 ft

ANS. D

3146 The SS AMERICAN MARINER has on board 6048 tons of cargo with

an LCG-FP of 270.89 feet. See the distribution of the cargo to be loaded. Use the white pages of the Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Third Deck	90
No. 2 Third Deck	80
No. 2 Tank Top	100
No. 3 Second Deck	50
No. 3 Third Deck	80
No. 3 Tank Top	75
No. 4 Tank Top	100
No. 5 Third Deck	80
No. 5 26'-6" Flat REEFER	50
No. 5 Third Deck REEFER	60
No. 6 Second Deck	100
No. 7 Second Deck	80

A. LCG-FP 263.4 feet
B. LCG-FP 266.6 feet
C. LCG-FP 267.8 feet
D. LCG-FP 269.4 feet

ANS. B

3148 The SS AMERICAN MARINER arrived in port with drafts of: FWD 29'-06", AFT 29'-02". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	125 tons	---155 feet fwd of amidships
Discharge	160 tons	--- 68 feet fwd of amidships
Load	140 tons	--- 75 feet aft of amidships
Load	170 tons	---185 feet aft of amidships

A. FWD 29'-07", AFT 29'-08"
B. FWD 29'-05", AFT 29'-10"
C. FWD 29'-03", AFT 30'-00"
D. FWD 29'-01", AFT 30'-02"

ANS. C

3168 The SS AMERICAN MARINER has on board 6080 tons of cargo with an LCG-FP of 270.71 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Second Deck	75
No. 1 Third Deck	80
No. 2 Third Deck	60
No. 2 Tank Top	90
No. 3 Second Deck	80
No. 3 Third Deck	75

No. 4 Third Deck	90
No. 4 Tank Top	60
No. 5 Second Deck	50
No. 5 26'-6" Flat	50
No. 5 Third Deck	50
No. 5 26'-6" Flat REEFER	70
No. 6 Second Deck	75
No. 6 Third Deck	60
No. 7 Third Deck	80

A. LCG-FP 270.8 feet
B. LCG-FP 269.2 feet
C. LCG-FP 267.6 feet
D. LCG-FP 266.7 feet

ANS. D

3177 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	2824	268.5
FRESH WATER	160	312.0
DRY CARGO	7190	267.5
REEFER CARGO	170	354.0
DECK CARGO	155	60.2

A. FWD 25'-07", AFT 27'-01"
B. FWD 25'-02", AFT 27'-06"
C. FWD 24'-10", AFT 27'-10"
D. FWD 24'-08", AFT 28'-00"

ANS. C

3195 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	1810	260.5
FRESH WATER	120	296.0
DRY CARGO	3450	262.5
REEFER CARGO	100	354.0
DECK CARGO	60	59.0

A. FWD 18'-05", AFT 21'-05"
B. FWD 18'-00", AFT 21'-10"
C. FWD 18'-06", AFT 22'-01"

D. FWD 17'-10", AFT 22'-00"

ANS. D

3225 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-05", AFT 20'-11". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	120 tons	210 feet fwd of amidships
Discharge	350 tons	40 feet fwd of amidships
Load	340 tons	60 feet aft of amidships
Discharge	60 tons	190 feet aft of amidships

A. FWD 18'-07", AFT 20'-11"
B. FWD 18'-09", AFT 20'-09"
C. FWD 18'-11", AFT 20'-07"
D. FWD 19'-01", AFT 20'-05"

ANS. A

3245 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	1380	285.0
FRESH WATER	220	298.0
DRY CARGO	9610	268.0
REEFER CARGO	310	354.0
DECK CARGO	90	60.0

A. FWD 25'-02", AFT 29'-10"
B. FWD 25'-06", AFT 29'-06"
C. FWD 27'-10", AFT 26'-02"
D. FWD 29'-11", AFT 25'-04"

ANS. A

3249 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 6 CL	200.0
DB 1A CL	81.9	DB 6 P	87.0

DB 2 P	71.2	DB 6 S	87.0
DB 2 S	71.2	DT 1A CL	257.6
DB 4 CL	224.1	DT 4 P/S	50.0
DB 4 P	128.1	DT 5 P/S	108.4
DB 4 S	128.1	DIS/WATER	10.0
DB 5 CL	196.2		
DB 5 P	178.0		
DB 5 S	180.0		

A. 231.0 ft
B. 234.3 ft
C. 244.6 ft
D. 251.5 ft

ANS. A

3266 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	1950	269.3
FRESH WATER	232	303.6
DRY CARGO	3280	260.5
REEFER CARGO	195	354.0
DECK CARGO	122	60.0

A. FWD 17'-11", AFT 22'-07"
B. FWD 17'-09", AFT 23'-01"
C. FWD 17'-05", AFT 23'-04"
D. FWD 17'-02", AFT 23'-04"

ANS. A

3285 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	81.9	DB 7 S	94.6
DB 2 P	71.2	DT 2 P	100.7
DB 2 S	71.2	DT 2 S	100.7
DB 4 P	128.1	DT 6 P	201.2
DB 4 S	128.1	DT 6 S	201.2
DB 5 CL	196.2	DT 7 P	128.8
DB 5 P	178.0	DT 7 S	128.8
DB 5 S	180.0	DT 4 P/S	110.0
DB 6 CL	200.0	DT 5 P/S	108.4
DB 6 P	87.0	DIS/WATER	20.0
DB 6 S	87.0		

A. 271.2 ft
B. 288.8 ft
C. 292.3 ft
D. 307.2 ft

ANS. D

3286 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 6 CL	242.3
DB 1A CL	81.9	DB 6 P	87.0
DB 2 P	71.2	DB 6 S	87.0
DB 2 S	71.2	DB 7 P	94.6
DB 3 CL	227.6	DB 7 S	94.6
DB 3 P	55.6	DT 1 CL	125.3
DB 3 S	55.6	DT 1A CL	257.6
DB 4 CL	224.1	DT 6 P	201.2
DB 4 P	128.1	DT 6 S	201.2
DB 4 S	128.1	DT 4 P/S	120.0
DB 5 CL	196.2	DT 5 P/S	108.4
DB 5 P	150.0	DIS/WATER	20.0
DB 5 S	150.0		

A. 270.6 ft
B. 261.2 ft
C. 250.5 ft
D. 246.8 ft

ANS. C

3306 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

Item	Tons	LCG-FP
F.O. & SALT WATER	3215	263.2
FRESH WATER	160	312.0
DRY CARGO	7880	268.5
REEFER CARGO	140	354.5
DECK CARGO	120	60.0

A. FWD 26'-09", AFT 28'-05"
B. FWD 26'-05", AFT 28'-07"
C. FWD 26'-04", AFT 28'-10"
D. FWD 26'-00", AFT 29'-00"

ANS. B

3311 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2608	8.5
FRESH WATER	80	20.0
DRY CARGO	5469	25.5
REEFER CARGO	225	28.2
DECK CARGO	113	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		20454

A. Available GM 3.51 ft
B. Available GM 3.60 ft
C. Available GM 3.98 ft
D. Available GM 4.28 ft

ANS. C

3315 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL 48.2	DB 6 P 87.0
DB 1A CL 81.9	DB 6 S 87.0
DB 2 P 71.2	DB 7 P 94.6
DB 2 S 71.2	DB 7 S 94.6
DB 4 P 128.1	DT 2 P 100.7
DB 4 S 128.1	DT 2 S 100.7
DB 5 CL 196.2	DT 7 P 128.8
DB 5 P 178.0	DT 7 S 128.8
DB 5 S 180.0	DT 4 P/S 110.0
DB 6 CL 200.0	DT 5 P/S 108.4
	DIS/WATER 20.0

A. 271.2 ft
B. 291.0 ft
C. 288.8
D. 305.3 ft

ANS. B

3333 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-06", AFT 21'-10". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	140 tons	170 feet fwd of amidships
Discharge	320 tons	60 feet fwd of amidships
Load	270 tons	132 feet aft of amidships
Discharge	230 tons	190 feet aft of amidships

A. FWD 18'-05", AFT 21'-07"
B. FWD 18'-07", AFT 21'-05"
C. FWD 18'-09", AFT 21'-03"
D. FWD 18'-11", AFT 21'-01"

ANS. B

3364 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	180 Tons
Upper tween deck layer	2800 Tons
Lower tween deck layer	2800 Tons
Hold layer	2300 Tons

A. 444 tons
B. 644 tons
C. 1044 tons
D. 1263 tons

ANS. D

3384 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4236 tons of cargo on board with a KG of 27.2 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	80
No. 1 Third Deck	75
No. 2 Third Deck	60
No. 2 Tank Top	94
No. 3 Second Deck	101
No. 3 Tank Top	57
No. 4 Third Deck	75
No. 4 Tank Top	83
No. 5 Tank Top	90
No. 5 26'-6" Flat (Reefer)	30
No. 5 Third Dk Reefer	30

A. KG 26.9 feet
B. KG 27.3 feet

C. KG 27.8 feet
D. KG 28.1 feet

ANS. A

3392 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	250 Tons
Upper tween deck layer	2800 Tons
Lower tween deck layer	3200 Tons
Hold layer	3200 Tons

A. 595 tons
B. 870 tons
C. 1200 tons
D. 1350 tons

ANS. A

3411 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 4 CL	224.1	DT 2 P	100.7
DB 4 P	128.1	DT 2 S	100.7
DB 4 S	128.1	DT 3 P	86.1
DB 5 CL	180.0	DT 3 S	86.1
DB 5 P	178.0	DT 4 P/S	105.0
DB 5 S	180.0	DT 5 P/S	108.4
DB 6 CL	242.3	DIS/WATER	20.0
DB 6 P	87.0		
DB 6 S	87.0		

A. 7.9 feet
B. 7.3 feet
C. 6.4 feet
D. 4.3 feet

ANS. A

3424 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	300 Tons
Upper tween deck layer	2700 Tons
Lower tween deck layer	3650 Tons
Hold layer	2650 Tons

A. 1920 tons
B. 1280 tons
C. 895 tons
D. 720 tons

ANS. C

3432 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 4 CL 224.1	DB 6 CL 200.0
DB 4 P 128.1	DB 6 P 87.0
DB 4 S 128.1	DB 6 S 87.0
DB 5 CL 196.2	DT 1A CL 257.6
DB 5 P 178.0	DT 5 P/S 108.4
DB 5 S 180.0	

A. 6.1 feet
B. 5.8 feet
C. 5.4 feet
D. 4.9 feet

ANS. B

3434 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4260 tons of cargo on board with a KG of 25.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	70
No. 1 Third Deck	70
No. 2 Third Deck	80
No. 2 Tank Top	65
No. 3 Third Deck	55
No. 3 Tank Top	80
No. 4 Second Deck	50

No. 4 Tank Top	90
No. 5 Upper Level Flat	70
No. 5 Tank Top	70
No. 6 Second Deck	80
No. 6 Third Deck	60

A. KG 24.6 feet
B. KG 25.0 feet
C. KG 25.4 feet
D. KG 25.9 feet

ANS. D

3448 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3485 tons of cargo on board with a KG of 24.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	160
No. 2 Third Deck	85
No. 2 Tank Top	70
No. 3 Second Deck	80
No. 3 Tank Top	75
No. 4 Second Deck	40
No. 4 Tank Top	120
No. 5 26'-6", Flat	150
No. 6 Second Deck	85
No. 6 Third Deck	70

A. KG 25.1 feet
B. KG 25.6 feet
C. KG 26.0 feet
D. KG 26.5 feet

ANS. B

3464 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3175 tons of cargo on board with a KG of 25.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	420
No. 2 Third Deck	410
No. 3 Third Deck	406
No. 4 Third Deck	418
No. 5 Tank Top	421
No. 6 Third Deck	412

A. KG 26.8 feet
B. KG 27.3 feet

C. KG 28.2 feet
D. KG 28.5 feet

ANS. A

3482 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 2 P	71.2	DB 5 CL	196.2
DB 2 S	71.2	DB 5 P	178.0
DB 3 CL	227.6	DB 5 S	180.0
DB 3 P	55.6	DB 6 CL	242.3
DB 3 S	55.6	DB 6 P	87.0
DB 4 CL	150.0	DB 6 S	87.0
DB 4 P	100.0	DB 7 P	94.6
DB 4 S	90.0	DB 7 S	94.6
		DT 1 CL	125.3
		DT 1A CL	257.6

A. 5.1 feet
B. 4.9 feet
C. 2.9 feet
D. 2.5 feet

ANS. B

3495 The SS AMERICAN MARINER arrived in port with drafts of: FWD 17'-10", AFT 19'-06". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	95 tons	210 feet fwd of amidships
Discharge	160 tons	60 feet fwd of amidships
Load	140 tons	60 feet aft of amidships
Load	170 tons	190 feet aft of amidships

A. FWD 16'-10", AFT 21'-02"
B. FWD 17'-00", AFT 21'-00"
C. FWD 17'-02", AFT 20'-10"
D. FWD 17'-04", AFT 20'-08"

ANS. D

3504 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 6280 tons of cargo on board with a KG of 25.5 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

No. 1 Second Deck	90
No. 1 Third Deck	70
No. 2 Third Deck	80
No. 2 Tank Top	85
No. 4 Second Deck	100
No. 4 Third Deck	75
No. 4 Tank Top	60
No. 5 Tank Top	100
No. 5 Upper (Reefer)	75
No. 5 Third Deck Reefer	70
No. 6 Second Deck	40
No. 6 Third Deck	40
No. 7 Second Deck	100
No. 7 Third Deck	50

A. KG 25.3 feet
B. KG 25.7 feet
C. KG 26.0 feet
D. KG 27.1 feet

ANS. C

3514 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 4 CL	224.1	DB 7 P	90.0
DB 4 P	128.1	DB 7 S	90.0
DB 4 S	128.1	DT 1 CL	125.3
DB 5 CL	196.2	DT 1A CL	257.6
DB 5 P	178.0	DT 4 P/S	100.0
DB 5 S	180.0	DT 5 P/S	108.4
DB 6 CL	242.3	DIS/WATER	24.9
DB 6 P	87.0		
DB 6 S	87.0		

A. 2.8 feet
B. 4.6 feet
C. 6.8 feet
D. 7.1 feet

ANS. D

3528 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 6 P	87.0
DB 1A CL	81.9	DB 6 S	87.0
DB 2 P	71.2	DB 7 P	94.6
DB 2 S	71.2	DB 7 S	94.6
DB 4 P	128.1	DT 2 P	100.7
DB 4 S	128.1	DT 2 S	100.7
DB 5 CL	196.2	DT 6 P	201.2
DB 5 P	178.0	DT 6 S	201.2
DB 5 S	180.0	DT 4 P/S	110.0
DB 6 CL	200.0	DT 5 P/S	108.4
		DIS/WATER	20.0

A. 271.2 ft
B. 288.8 ft
C. 294.4 ft
D. 305.3 ft

ANS. C

3529 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	8240 Tons
Fuel oil	3200 Tons
Fresh water	240 Tons
Ballast	0 Tons

A. 2.15 feet
B. 2.05 feet
C. 1.95 feet
D. 1.75 feet

ANS. B

3547 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2608	7.5
FRESH WATER	80	21.0
DRY CARGO	5469	27.0
REEFER CARGO	225	29.2

DECK CARGO	113	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		22273

A. Available GM 3.5 ft
B. Available GM 3.9 ft
C. Available GM 4.3 ft
D. Available GM 4.8 ft

ANS. A

3549 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-10", AFT 18'-06". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	140 tons	---170 feet fwd of amidships
Discharge	160 tons	--- 60 feet fwd of amidships
Discharge	140 tons	--- 60 feet aft of amidships
Load	230 tons	---190 feet aft of amidships

A. FWD 18'-00", AFT 19'-06"
B. FWD 18'-02", AFT 19'-04"
C. FWD 18'-04", AFT 19'-02"
D. FWD 18'-06", AFT 19'-00"

ANS. C

3576 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stablility Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	300 Tons
Upper tween deck layer	1800 Tons
Lower tween deck layer	2900 Tons
Hold layer	3100 Tons

A. 1220 tons
B. 840 tons
C. 460 tons
D. 344 tons

ANS. D

3583 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

DB 2 P	71.2	DB 5 CL	196.2
DB 2 S	71.2	DB 5 P	178.0
DB 3 CL	220.0	DB 5 S	180.0
DB 3 P	55.6	DB 6 CL	242.3
DB 3 S	55.6	DB 6 P	87.0
DB 4 CL	224.1	DB 6 S	87.0
DB 4 P	128.1	DB 7 P	94.6
DB 4 S	128.1	DB 7 S	94.6
		DT 4 P/S	110.0
		DT 5 P/S	108.4

A. 2.6 feet
B. 2.8 feet
C. 3.1 feet
D. 4.3 feet

ANS. D

3622 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	180 Tons
Upper tween deck layer	3000 Tons
Lower tween deck layer	3500 Tons
Hold layer	2500 Tons

A. 451 tons
B. 1126 tons
C. 1451 tons
D. 1726 tons

ANS. B

3636 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	2105 Tons
Fuel oil	1860 Tons
Fresh water	108 Tons
Ballast	0 Tons

A. 3.15 feet
B. 3.05 feet
C. 2.90 feet
D. 2.80 feet

ANS. B

3658 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 6 CL	200.0
DB 1A CL	81.9	DB 6 P	87.0
DB 2 P	71.2	DB 6 S	87.0
DB 2 S	71.2	DB 7 P	94.6
DB 4 CL	224.1	DB 7 S	94.6
DB 4 P	128.1	DT 2 P	100.7
DB 4 S	128.1	DT 2 S	100.7
DB 5 CL	196.2	DT 4 P/S	110.0
DB 5 P	178.0	DT 5 P/S	108.4
DB 5 S	180.0	DIS/WATER	20.0

A. 226.9 ft
B. 238.3 ft
C. 252.4 ft
D. 268.8 ft

ANS. D

3668 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

Deck cargo	300 Tons
Upper tween deck laye	3000 Tons
Lower tween deck layer	1500 Tons
Hold layer	2500 Tons

A. 920 tons
B. 1120 tons
C. 1245 tons
D. 1545 tons

ANS. D

3792 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white

pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	3036 Tons
Fuel oil	2636 Tons
Fresh water	154 Tons
Ballast	204 Tons

A. 3.10 feet
B. 2.45 feet
C. 2.00 feet
D. 1.50 feet

ANS. B

3832 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 5 P	178.0
DB 1A CL	81.9	DB 5 S	180.0
DB 2 P	71.2	DB 6 CL	200.0
DB 2 S	71.2	DB 6 P	87.0
DB 3 CL	227.6	DB 6 S	87.0
DB 4 CL	224.1	DT 2 P	100.7
DB 4 P	128.1	DT 2 S	100.7
DB 4 S	128.1	DT 4 P/S	110.0
DB 5 CL	196.2	DT 5 P/S	108.4
		DIS/WATER	20.0

A. 229.8 ft
B. 234.3 ft
C. 246.8 ft
D. 251.5 ft

ANS. C

3902 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	1906	7.5
FRESH WATER	160	21.0
DRY CARGO	7815	27.0
REEFER CARGO	125	29.2

DECK CARGO	155	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		17899

A. Available GM 3.0 ft
B. Available GM 3.7 ft
C. Available GM 4.0 ft
D. Available GM 4.2 ft

ANS. A

3934 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 5 P	178.0
DB 1A CL	81.9	DB 5 S	180.0
DB 2 P	71.2	DB 6 CL	200.0
DB 2 S	71.2	DB 6 P	87.0
DB 3 CL	227.6	DB 6 S	87.0
DB 4 CL	224.1	DT 1A CL	257.6
DB 4 P	128.1	DT 2 P	100.7
DB 4 S	128.1	DT 2 S	100.7
DB 5 CL	196.2	DT 4 P/S	110.0
		DT 5 P/S	108.4
		DIS/WATER	20.0

A. 228.8 ft
B. 238.3 ft
C. 252.4 ft
D. 266.5 ft

ANS. A

3996 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	4623 Tons
Fuel oil	1800 Tons
Fresh water	108 Tons
Ballast	130 Tons

A. 2.85 feet
B. 2.65 feet
C. 2.36 feet
D. 2.15 feet

ANS. C

4006 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-06", AFT 20'-10". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load	140 tons	170 feet fwd of amidships
Discharge	160 tons	60 feet fwd of amidships
Load	140 tons	132 feet aft of amidships
Discharge	230 tons	190 feet aft of amidships

A. FWD 18'-11", AFT 20'-02"
B. FWD 19'-01", AFT 20'-00"
C. FWD 19'-03", AFT 19'-10"
D. FWD 19'-05", AFT 19'-08"

ANS. D

4074 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

Stores	50 Tons
Lube oil	13 Tons
Cargo	7212 Tons
Fuel oil	2485 Tons
Fresh water	98 Tons
Ballast	0 Tons

A. 2.20 feet
B. 2.00 feet
C. 1.80 feet
D. 1.65 feet

ANS. C

4094 The SS AMERICAN MARINER arrived in port with drafts of: FWD 19'-10.5", AFT 22'-11.6". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

Load	90 tons	210 ft fwd of amidships
Discharge	240 tons	38 ft fwd of amidships
Discharge	120 tons	94 ft aft of amidships
Load	140 tons	150 ft aft of amidships

A. FWD 20'-01.4", AFT 23'-00.6"
B. FWD 19'-07.6", AFT 22'-10.4"
C. FWD 19'-09.3", AFT 22'-08.7"
D. FWD 19'-11.7", AFT 23'-02.5"

ANS. B

4114 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 6 CL	200.0
DB 1A CL	81.9	DB 6 P	87.0
DB 2 P	71.2	DB 6 S	87.0
DB 2 S	71.2	DT 1A CL	257.6
DB 4 P	128.1	DT 2 P	100.7
DB 4 S	128.1	DT 2 S	100.7
DB 5 CL	196.2	DT 4 P/S	110.0
DB 5 P	178.0	DT 5 P/S	108.4
DB 5 S	180.0	DIS/WATER	20.0

A. 229.8 ft
B. 236.7 ft
C. 244.6 ft
D. 251.5 ft

ANS. B

4178 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 6 CL	200.0
DB 1A CL	81.9	DB 6 P	87.0
DB 2 P	71.2	DB 6 S	87.0
DB 2 S	71.2	DT 1A CL	257.6
DB 3 P	55.6	DT 2 P	100.7
DB 3 S	55.6	DT 2 S	100.7
DB 4 P	128.1	DT 7 P	128.8
DB 4 S	128.1	DT 7 S	128.8
DB 5 CL	196.2	DT 4 P/S	110.0
DB 5 P	178.0	DT 5 P/S	108.4
DB 5 S	180.0	DIS/WATER	20.0

A. 229.8 ft
B. 234.3 ft
C. 244.6 ft
D. 253.5 ft

ANS. D

4222 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

DB 1 CL	48.2	DB 5 P	178.0
DB 1A CL	81.9	DB 5 S	180.0
DB 2 P	71.2	DB 6 CL	200.0
DB 2 S	71.2	DT 2 P	100.7
DB 3 P	55.6	DT 2 S	100.7
DB 3 S	55.6	DT 6 P	201.2
DB 4 P	128.1	DT 6 S	201.2
DB 4 S	128.1	DT 4 P/S	110.0
DB 5 CL	196.2	DT 5 P/S	80.0
		DIS/WATER	20.0

A. 273.5 ft
B. 288.8 ft
C. 292.3 ft
D. 305.3 ft

ANS. A

4312 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	60.0	DB 7 S	94.6
DB 2 P	71.2	DT 1A CL	251.6
DB 2 S	71.2	DT 2 P	100.7
DB 4 CL	224.1	DT 2 S	100.7
DB 4 P	105.0	DT 3 P	86.1
DB 4 S	105.0	DT 3 S	86.1
DB 5 CL	196.2	DT 6 P	165.0
DB 6 CL	200.0	DT 6 S	165.0
DB 6 P	87.0	DT 7 P	128.8
DB 6 S	87.0	DT 7 S	128.8

A. 1.30 feet
B. 1.17 foot
C. 1.06 foot
D. 0.91 foot

ANS. A

4326 The SS AMERICAN MARINER has on board 4850 tons of cargo with an LCG-FP of 279.84 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data

Reference Book to determine the final LCG-FP of the cargo.

No. 1 Main Deck	60
No. 1 Third Deck	80
No. 2 Second Deck	70
No. 2 Tank Top	220
No. 3 Second Deck	50
No. 4 Third Deck	110
No. 4 Tank Top	350
No. 5 26'-6" Flat CL	110
No. 5 26'-6" Flat P/S REEFER	80
No. 6 Second Deck	90
No. 6 Third Deck	110
No. 7 Third Deck	80

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. D

4336 The SS AMERICAN MARINER has on board 5486 tons of cargo with an LCG-FP of 277.84 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Third Deck	80
No. 2 Second Deck	70
No. 2 Tank Top	120
No. 3 Second Deck	50
No. 3 Tank Top	410
No. 4 Tank Top	350
No. 5 26'-6" Flat CL	110
No. 5 26'-6" Flat P/S REEFER	80
No. 5 Tank Top	180
No. 6 Second Deck	90
No. 6 Third Deck	180
No. 7 Third Deck	140

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. C

4402 The SS AMERICAN MARINER has on board 6584 tons of cargo with an LCG-FP of 277.84 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Second Deck	60

No. 2 Second Deck	70
No. 2 Tank Top	120
No. 3 Second Deck	180
No. 3 Tank Top	410
No. 4 Second Deck	140
No. 5 Upper Level Flat	110
No. 5 Tank Top	180
No. 6 Second Deck	90
No. 6 Third Deck	70
No. 6 Third Deck	180
No. 7 Third Deck	140

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. D

4484 The SS AMERICAN MARINER has on board 6285 tons of cargo with an LCG-FP of 272.45 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Second Deck	60
No. 2 Second Deck	120
No. 2 Tank Top	140
No. 3 Second Deck	180
No. 4 Second Deck	140
No. 4 Tank Top	320
No. 5 Second Deck	70
No. 5 Tank Top	180
No. 6 Second Deck	90
No. 6 Third Deck	70
No. 6 Third Deck	180
No. 7 Third Deck	140

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. B

4534 The SS AMERICAN MARINER has on board 5577 tons of cargo with an LCG-FP of 275.55 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Main Deck	70
No. 2 Second Deck	120
No. 2 Third Deck	130
No. 3 Second Deck	180
No. 3 Tank Top	430

No. 4 Tank Top	320
No. 5 Tank Top	320
No. 6 Second Deck	70
No. 6 Third Deck	180
No. 7 Second Deck	120
No. 7 Third Deck	140

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. A

4574 The SS AMERICAN MARINER has on board 4824 tons of cargo with an LCG-FP of 277.45 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Main Deck	90
No. 2 Second Deck	160
No. 2 Third Deck	130
No. 3 Second Deck	180
No. 4 Second Deck	220
No. 4 Tank Top	320
No. 5 26'-6" Flat P/S REEFER	110
No. 6 Second Deck	70
No. 7 Second Deck	120
No. 7 Third Deck	140

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. C

4644 The SS AMERICAN MARINER has on board 7240 tons of cargo with an LCG-FP of 273.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Main Deck	120
No. 2 Third Deck	120
No. 3 Second Deck	80
No. 3 Second Deck	320
No. 5 Second Deck	90
No. 5 Third Deck	210
No. 5 Tank Top	450
No. 7 Second Deck	110

No. 7 Third Deck	140

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 275.3 feet

ANS. D

4652 The SS AMERICAN MARINER has on board 3245 tons of cargo with an LCG-FP of 272.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Main Deck	90
No. 1 Second Deck	100
No. 2 Second Deck	160
No. 2 Third Deck	130
No. 3 Tank Top	380
No. 4 Tank Top	320
No. 5 Tank Top	360
No. 5 26'-6" Flat P/S REEFER	110
No. 6 Second Deck	120
No. 6 Third Deck	110
No. 7 Second Deck	120
No. 7 Third Deck	140

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. A

4746 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DT 6 P	201.2
DB 2 P	65.0	DT 6 S	201.2
DB 2 S	65.0		
DB 3 CL	227.6		
DB 4 CL	224.1		
DB 5 CL	196.2		
DB 5 P	178.0		
DB 5 S	180.0		
DB 6 CL	220.0		
DB 7 P	90.0		

DB 7 S 90.0

A. 1.30 feet
B. 1.07 foot
C. 0.96 foot
D. 0.82 foot

ANS. B

4748 The SS AMERICAN MARINER has on board 3885 tons of cargo with an LCG-FP of 278.45 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Main Deck	90
No. 1 Second Deck	100
No. 2 Second Deck	160
No. 2 Third Deck	130
No. 3 Second Deck	180
No. 3 Tank Top	380
No. 4 Tank Top	320
No. 5 Second Deck	160
No. 5 26'-6" Flat P/S REEFER	110
No. 5 Tank Top	360
No. 6 Second Deck	110
No. 7 Second Deck	120
No. 7 Third Deck	140

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. B

4778 The SS AMERICAN MARINER has on board 5540 tons of cargo with an LCG-FP of 272.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Main Deck	120
No. 2 Second Deck	120
No. 2 Third Deck	130
No. 3 Tank Top	380
No. 4 Tank Top	320
No. 5 26'-6" Flat P/S REEFER	110
No. 6 Second Deck	120
No. 6 Third Deck	110
No. 7 Second Deck	120
No. 7 Third Deck	140

A. LCG-FP 266.5 feet
B. LCG-FP 267.8 feet

C. LCG-FP 268.4 feet
D. LCG-FP 269.2 feet

ANS. B

4812 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 6 CL	242.3
DB 1A CL	81.9	DB 6 P	87.0
DB 2 P	71.2	DB 6 S	87.0
DB 2 S	71.2	DB 7 P	66.2
DB 3 CL	227.6	DB 7 S	58.4
DB 3 P	55.6	DT 1	84.2
DB 3 S	55.6	DT 1A CL	235.6
DB 4 CL	224.1	DT 3 P	86.1
DB 4 P	128.1	DT 3 S	86.1
DB 4 S	128.1	DT 6 P	201.2
DB 5 CL	196.2	DT 6 S	201.2
		DT 7 P	128.8
		DT 7 S	128.8

A. 0.54 foot
B. 0.62 foot
C. 0.80 foot
D. 0.85 foot

ANS. A

5068 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 6 P	87.0
DB 1A CL	81.9	DB 6 S	87.0
DB 2 P	71.2	DB 7 P	94.6
DB 2 S	71.2	DB 7 S	94.6
DB 3 CL	227.6	DT 2 P	100.7
DB 4 CL	224.1	DT 2 S	100.7
DB 4 P	128.1	DT 3 P	86.1
DB 4 S	128.1	DT 3 S	86.1
DB 5 CL	180.0	DT 6 P	201.2
DB 5 P	178.0	DT 6 S	201.2
DB 5 S	180.0	DT 7 P	128.8
DB 6 CL	212.0	DT 7 S	128.8

A. 0.62 foot
B. 0.80 foot

C. 0.85 foot
D. 0.99 foot

ANS. C

5098 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL 48.2	DB 7 P 94.6
DB 1A CL 81.9	DB 7 S 94.6
DB 2 P 71.2	DT 1 CL 125.3
DB 2 S 71.2	DT 1A CL 235.6
DB 3 CL 214.4	DT 2 P 100.7
DB 4 CL 224.1	DT 2 S 100.7
DB 4 P 128.1	DT 3 P 86.1
DB 4 S 128.1	DT 3 S 86.1
DB 6 CL 212.0	DT 6 P 201.2
DB 6 P 87.0	DT 6 S 201.2
DB 6 S 87.0	DT 7 P 128.8
	DT 7 S 128.8

A. 0.62 foot
B. 0.80 foot
C. 0.85 foot
D. 0.99 foot

ANS. B

5124 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL 48.2	DB 7 P 94.6
DB 1A CL 81.9	DB 7 S 94.6
DB 2 P 71.2	DT 1 CL 125.3
DB 2 S 71.2	DT 1A CL 235.6
DB 3 CL 227.6	DT 3 P 86.1
DB 3 P 55.6	DT 3 S 86.1
DB 3 S 55.6	DT 6 P 201.2
DB 4 CL 224.1	DT 6 S 201.2
DB 4 P 128.1	DT 7 P 128.8
DB 4 S 128.1	DT 7 S 128.8
DB 5 CL 170.4	
DB 6 CL 212.0	

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet

D. 1.31 feet

ANS. A

5234 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 6 P	87.0
DB 1A CL	81.9	DB 6 S	87.0
DB 2 P	71.2	DB 7 P	94.6
DB 2 S	71.2	DB 7 S	94.6
DB 3 CL	227.6	DT 1 CL	125.3
DB 3 P	55.6	DT 1A CL	235.6
DB 3 S	55.6	DT 3 P	86.1
DB 4 CL	208.6	DT 3 S	86.1
DB 4 P	128.1	DT 6 P	201.2
DB 4 S	128.1	DT 6 S	201.2
DB 5 CL	180.4	DT 7 P	128.8
DB 6 CL	212.0	DT 7 S	128.8

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet
D. 1.31 feet

ANS. B

5302 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 15'-05", AFT 21'-03". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	81.9	DB 7 S	94.6
DB 2 P	71.2	DT 1 CL	125.3
DB 2 S	71.2	DT 1A CL	235.6
DB 3 CL	227.6	DT 3 P	86.1
DB 3 P	55.6	DT 3 S	86.1
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	208.6	DT 6 S	201.2
DB 4 P	128.1	DT 7 P	128.8
DB 4 S	128.1	DT 7 S	128.8
DB 5 CL	196.2		
DB 6 CL	212.0		
DB 6 P	87.0		
DB 6 S	87.0		

A. 0.62 foot
B. 0.80 foot
C. 0.85 foot

D. 0.99 foot

ANS. D

5314 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	81.9	DB 7 S	94.6
DB 2 P	71.2	DT 1 CL	125.3
DB 2 S	71.2	DT 1A CL	235.6
DB 3 CL	227.6	DT 3 P	86.1
DB 3 P	55.6	DT 3 S	86.1
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	208.6	DT 6 S	201.2
DB 4 P	128.1	DT 7 P	128.8
DB 4 S	128.1	DT 7 S	128.8
DB 5 CL	170.4		
DB 6 CL	212.0		

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet
D. 1.31 feet

ANS. C

5412 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	66.2
DB 1A CL	81.9	DB 7 S	58.4
DB 2 P	71.2	DT 1 CL	125.3
DB 2 S	71.2	DT 1A CL	235.6
DB 3 CL	227.6	DT 3 P	86.1
DB 3 P	55.6	DT 3 S	86.1
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	224.1	DT 6 S	201.2
DB 4 P	87.0	DT 7 P	128.8
DB 4 S	87.0	DT 7 S	128.8
DB 5 CL	196.2		
DB 6 CL	242.3		
DB 6 P	87.0		
DB 6 S	87.0		

A. 0.62 foot
B. 0.80 foot
C. 0.85 foot
D. 0.99 foot

ANS. A

5449 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	44.6
DB 1A CL	81.9	DB 7 S	20.8
DB 2 P	71.2	DT 1 CL	125.3
DB 2 S	71.2	DT 1A CL	235.6
DB 3 CL	140.6	DT 3 P	86.1
DB 3 P	55.6	DT 3 S	86.1
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	224.1	DT 6 S	201.2
DB 4 P	87.0	DT 7 P	128.8
DB 4 S	87.0	DT 7 S	128.8
DB 5 CL	170.4		
DB 6 CL	212.0		

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet
D. 1.31 feet

ANS. D

5462 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	40.0	DT 6 P	201.2
DB 2 P	65.0	DT 6 S	201.2
DB 2 S	65.0	DT 7 P	110.0
DB 3 CL	227.6	DT 7 S	110.0
DB 4 CL	224.1		
DB 4 P	128.1		
DB 4 S	128.1		
DB 5 CL	196.2		
DB 5 P	170.0		
DB 5 S	170.0		
DB 6 CL	242.3		

A. 1.30 feet
B. 1.17 foot
C. 1.01 foot
D. 0.91 foot

ANS. C

5518 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of THe Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	44.6
DB 1A CL	81.9	DB 7 S	94.6
DB 2 P	71.2	DT 1 CL	125.3
DB 2 S	71.2	DT 1A CL	235.6
DB 3 CL	140.6	DT 3 P	86.1
DB 3 P	55.6	DT 3 S	86.1
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	224.1	DT 6 S	201.2
DB 4 P	087.0	DT 7 P	128.8
DB 4 S	087.0	DT 7 S	128.8
DB 5 CL	170.4		
DB 6 CL	212.0		

A. 1.15 feet
B. 1.25 feet
C. 1.31 feet
D. 1.48 feet

ANS. D

5574 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	1664	7.5
FRESH WATER	160	21.0
DRY CARGO	7190	27.0
REEFER CARGO	170	29.2
DECK CARGO	155	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		15138

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. A

5604 The SS AMERICAN MARINER is ready to sail with the load

shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	1870	7.5
FRESH WATER	210	21.0
DRY CARGO	4882	27.0
REEFER CARGO	170	29.2
DECK CARGO	452	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		17555

A. Available GM 2.4 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. A

5702 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2335	7.5
FRESH WATER	190	21.0
DRY CARGO	5440	27.0
REEFER CARGO	225	29.2
DECK CARGO	377	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		15322

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. B

5752 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG

----	----	--
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2685	7.5
FRESH WATER	190	21.0
DRY CARGO	5440	27.0
REEFER CARGO	225	29.2
DECK CARGO	365	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		16854

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. C

5786 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
----	----	--
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2685	7.5
FRESH WATER	190	21.0
DRY CARGO	5440	27.0
REEFER CARGO	225	29.2
DECK CARGO	185	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		17324

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. D

5864 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
----	----	--
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2246	7.5
FRESH WATER	190	21.0

DRY CARGO	3556	27.0
REEFER CARGO	180	29.2
DECK CARGO	120	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		12366

A. Available GM 4.1 ft
B. Available GM 4.3 ft
C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. A

5924 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	40.0	DT 6 P	201.2
DB 2 P	65.0	DT 6 S	201.2
DB 2 S	65.0	DT 7 P	128.8
DB 3 CL	227.6	DT 7 S	128.8
DB 4 CL	224.1		
DB 4 P	128.1		
DB 4 S	128.1		
DB 5 CL	196.2		
DB 5 P	178.0		
DB 5 S	180.0		
DB 6 CL	242.3		

A. 1.30 feet
B. 1.07 foot
C. 0.96 foot
D. 0.73 foot

ANS. D

5936 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2145	6.7
FRESH WATER	190	21.0
DRY CARGO	3710	26.4
REEFER CARGO	180	29.2
DECK CARGO	120	55.0

TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		12088

A. Available GM 4.1 ft
B. Available GM 4.3 ft
C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. B

6004 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2045	6.7
FRESH WATER	240	21.0
DRY CARGO	3112	25.8
REEFER CARGO	90	29.2
DECK CARGO	80	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		11542

A. Available GM 4.1 ft
B. Available GM 4.3 ft
C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. C

6074 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2845	7.3
FRESH WATER	180	21.0
DRY CARGO	3188	25.3
REEFER CARGO	40	29.2
DECK CARGO	257	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		11980

A. Available GM 4.1 ft
B. Available GM 4.3 ft

C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. D

6102 The SS AMERICAN MARINER has on board 5480 tons of cargo with an LCG-FP of 274.46 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Third Deck	40
No. 2 Second Deck	30
No. 2 Third Deck	50
No. 2 Tank Top	80
No. 3 Tank Top	80
No. 4 Tank Top	220
No. 5 Tank Top	110
No. 5 Third Deck REEFER	40
No. 6 Second Deck	160
No. 6 Third Deck	80

A. LCG-FP 271.79 feet
B. LCG-FP 272.87 feet
C. LCG-FP 274.04 feet
D. LCG-FP 275.13 feet

ANS. B

6106 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

ITEM	TONS	KG
CREW and STORES	50	43.7
LUBE OIL	13	25.8
F.O. & SALT WATER	2845	7.3
FRESH WATER	180	21.0
DRY CARGO	3188	25.3
REEFER CARGO	40	29.2
DECK CARGO	60	55.0
TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD		12600

A. Available GM 4.3 ft
B. Available GM 4.7 ft
C. Available GM 5.1 ft
D. Available GM 5.5 ft

ANS. D

6618 The SS AMERICAN MARINER has on board 6048 tons of cargo with an LCG-FP of 270.71 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Third Deck	60
No. 2 Second Deck	50
No. 2 Third Deck	90
No. 2 Tank Top	40
No. 3 Second Deck	120
No. 3 Tank Top	70
No. 5 Second Deck	120
No. 5 Tank Top	280
No. 6 Second Deck	30

A. LCG-FP 267.03 feet
B. LCG-FP 267.92 feet
C. LCG-FP 268.66 feet
D. LCG-FP 269.94 feet

ANS. A

6619 The SS AMERICAN MARINER has on board 6450 tons of cargo with an LCG-FP of 270.89 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Second Deck	80
No. 2 Second Deck	110
No. 2 Tank Top	70
No. 3 Tank Top	90
No. 4 Third Deck	35
No. 5 Second Deck	60
No. 5 Tank Top	220
No. 6 Second Deck	40
No. 6 Third Deck	70
No. 7 Second Deck	100

A. LCG-FP 267.12 feet
B. LCG-FP 268.48 feet
C. LCG-FP 270.97 feet
D. LCG-FP 273.06 feet

ANS. C

7052 The SS AMERICAN MARINER has on board 4850 tons of cargo with an LCG-FP of 274.46 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

No. 1 Second	75

No. 2 Tank Top	120
No. 3 Second Deck	60
No. 3 Third Deck	100
No. 3 Tank Top	80
No. 4 Third Deck	150
No. 5 Upper Level Flat	120
No. 5 Tank Top	90
No. 5 Third Deck REEFER	80
No. 6 Third Deck	40
No. 7 Second Deck	125

A. LCG-FP 271.23 feet
B. LCG-FP 270.96 feet
C. LCG-FP 269.52 feet
D. LCG-FP 267.88 feet

ANS. A

**********END OF BOOK FOUR QUESTIONS**********

START BOOK FIVE

979 At 0900 zone time, on 23 September 1981, your DR position is LAT 28°48.0' N, LONG 153°11.5' W. You are steering course 257° T at a speed of 18.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1020 running fix?

ZONE TIME	GHA	OBSERVED ALTITUDE	DECLINATION
0915	110°44.9'	40°01.9'	S 0°15.8'
0950	119°27.4'	46°22.9'	S 0°16.3'
1020	127°00.9'	51°21.7'	S 0°16.8'

A. 28°43.3' N, 153°32.1' W
B. 28°46.4' N, 153°34.6' W
C. 28°49.1' N, 153°37.0' W
D. 28°52.8' N, 153°30.6' W

ANS. C

992 At 0100 zone time, on 23 September 1981, your DR position is LAT 24°25.0' N, LONG 83°00.0' W. You are steering course 315° T. The speed over the ground is 10.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1100 running fix?

ZONE	OBSERVED

TIME	GHA	ALTITUDE(Ho)	DECLINATION
0700	17°20.1'	21°09.0'	S 00°09.7'
0900	47°03.0'	46°05.0'	S 00°11.6'
1100	77°06.4'	63°16.1'	S 00°13.5'

A. LAT 25°35.3' N, LONG 84°17.0' W
B. LAT 25°42.6' N, LONG 84°18.7' W
C. LAT 25°30.4' N, LONG 84°28.6' W
D. LAT 25°28.3' N, LONG 84°34.3' W

ANS. A

993 Your 0745 ZT, 15 July 1981, position is LAT 29°04.0' N, LONG 71°17.5' W. You are on course 165° T, and your speed is 8.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1130 running fix?

ZONE TIME	GHA	OBSERVED ALTITUDE	DECLINATION
0830	21°01.8'	44°16.4'	N 21°29.2'
0930	36°01.7'	57°25.5'	N 21°28.8'
1130	66°01.6'	81°30.2'	N 21°28.0'

A. LAT 28°35.0' N, LONG 71°08.5' W
B. LAT 28°39.8' N, LONG 71°04.0' W
C. LAT 28°40.5' N, LONG 71°13.0' W
D. LAT 28°43.3' N, LONG 71°02.5' W

ANS. A

994 At 0600 zone time, on 16 March 1981, your DR position is LAT 20°10.0' N, LONG 81°30.0' W. You are steering course 300° T. The speed over the ground is 10 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1130 running fix?

ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
0800	12°50.0'	19°00.0'	S 01°38.8'
1030	50°20.4'	51°42.0'	S 01°36.5'
1130	65°20.5'	62°11.5'	S 01°35.5'

A. LAT 20°28.5' N, LONG 82°12.6' W
B. LAT 20°32.0' N, LONG 82°16.4' W
C. LAT 20°39.0' N, LONG 82°22.9' W
D. LAT 20°42.5' N, LONG 82°26.2' W

ANS. C

1021 On 30 March 1981, your 0145 DR position is LAT 29°30' S, LONG 122°45' E. You are on course 055° T at a speed of 22 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Fomalhaut	0545	169°18.5'	32°50.8'	S 29°43.4'
Altair	0550	217°14.7'	48°27.2'	N 8°48.9'
Spica	0600	316°09.6'	13°34.0'	S 11°03.8'

A. LAT 28°24.6' S, LONG 124°21.4' E
B. LAT 28°39.9' S, LONG 124°18.6' E
C. LAT 28°41.5' S, LONG 124°41.5' E
D. LAT 29°20.1' S, LONG 123°41.0' E

ANS. B

1076 On 25 Mar 1981, your 0500 ZT DR position is LAT 28,14.0' S, LONG 93°17.0' E. You are on course 291° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0550 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Peacock	0520	226°18.5'	49°42.9'	S 56°47.6'
Altair	0535	238°38.2'	43°53.1'	N 8°48.9'
Spica	0550	338°48.5'	21°11.7'	S 11°03.8'

A. LAT 28°15.9' S, LONG 92°56.9' E
B. LAT 28°19.3' S, LONG 92°59.0' E
C. LAT 28°06.4' S, LONG 93°02.5' E
D. LAT 27°53.2' S, LONG 93°17.6' E

ANS. A

1077 On 15 July 1981, your 1845 ZT DR position is LAT 27°42.0' N, LONG 167°02.0' E. You are on course 243° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1945 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION

Deneb	1905	104°08.0'	19°52.4'	N 45°12.8'
Antares	1924	172°02.1'	32°22.1'	S 26°23.5'
Denebola	1945	247°20.6'	38°22.3'	N 14°40.7'

A. LAT 27°31.1' N, LONG 166°43.0' E
B. LAT 27°38.5' N, LONG 166°45.1' E
C. LAT 27°45.3' N, LONG 166°32.2' E
D. LAT 27°46.9' N, LONG 166°39.8' E

ANS. A

1078 On 6 April 1981, your 1830 ZT DR position is LAT 26°33.0' N, LONG 64°31.0' W. You are on course 082° T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Sirius	1836	73°02.7'	46°00.5'	S 16°41.7'
Regulus	1842	23°46.9'	49°07.2'	N 12°03.5'
Mirfak	1900	129°24.3'	35°51.6'	N 49°47.7'

A. LAT 26°49.5' N, LONG 64°06.5' W
B. LAT 26°32.5' N, LONG 64°27.1' W
C. LAT 26°31.2' N, LONG 64°32.1' W
D. LAT 26°28.7' N, LONG 64°32.1' W

ANS. B

1079 On 12 Dec. 1981, your 1830 ZT DR position is LAT 24°16.0' S, LONG 41°18.0' W. You are on course 235° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1930 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Rigel	1845	329°19.7'	19°54.7''	S 8°13.4'
Peacock	1910	107°58.4'	32°43.9''	S 56°47.8'
Markab	1930	73°04.1'	39°53.1'	N 15°06.5'

A. LAT 24°12.5' S, LONG 41°10.9' W
B. LAT 24°16.9' S, LONG 41°18.2' W
C. LAT 24°25.2' S, LONG 41°39.9' W
D. LAT 27°46.9' S, LONG 41°31.2' W

ANS. B

1080 On 20 Feb. 1981, your 0530 ZT DR position is LAT 24°15.0' N, LONG 137°33.0' W. You are on course 033° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Regulus	0540	218°35.9'	13°02.2'	N 12°03.5'
Antares	0552	126°23.5'	38°04.1''	S 26°23.3'
Vega	0600	96°23.2'	52°33.5'	N 38°45.8'

A. LAT 24°23.3' N, LONG 137°35.5' W
B. LAT 24°26.0' N, LONG 137°25.8' W
C. LAT 24°27.5' N, LONG 137°31.8' W
D. LAT 24°30.1' N, LONG 137°24.5' W

ANS. C

1081 On 14 Sept 1981, your 1810 ZT DR position is LAT 27°12.0' S, LONG 71°10.0' E. You are on course 060° T at a speed of 15.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1822 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Venus	1810	341°30.4'	38°48.9''	S 12°48.1'
Altair	1816	255°00.4'	41°20.3'	N 8°49.3'
Peacock	1822	247°55.8'	48°39.5'	S 56°47.8'

A. LAT 27°04.5' S, LONG 71°22.4' E
B. LAT 27°07.5' S, LONG 71°18.6' E
C. LAT 27°09.2' S, LONG 71°11.3' E
D. LAT 27°11.0' S, LONG 71°14.5' E

ANS. D

1082 On 20 Nov. 1981, your 1030 ZT DR position is LAT 27°16.0' N, LONG 157°18.6' E. You are on course 060° T at a speed of 20 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1200 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Moon	1030	259°24.4'	34°01.5'	N 9°47.3'

Sun	1116	202°30.5'	43°00.0'	S 19°38.0'
Venus	1200	162°57.7'	24°26.9'	S 26°02.4'

A. LAT 27°16.8' N, LONG 157°30.5' E
B. LAT 27°22.6' N, LONG 157°37.8' E
C. LAT 27°29.7' N, LONG 157°43.0' E
D. LAT 27°33.4' N, LONG 157°48.2' E

ANS. C

1083 On 21 Nov. 1981, your 1146 ZT DR position is LAT 26°05.0' N, LONG 90°02.0' W. You are on course 300° T at a speed of 20.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1246 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Sun L/L	1146	90°02.0'	43°50.5''	S 20°00.0'
Venus	1216	46°53.6'	23°16.3''	S 25°49.1'
Moon L/L	1246	154°30.6'	23°56.1'	N 01°57.3'

A. LAT 26°09.0' N, LONG 90°10.5' W
B. LAT 26°14.5' N, LONG 90°15.8' W
C. LAT 26°19.0' N, LONG 90°21.0' W
D. LAT 26°24.2' N, LONG 90°24.0' W

ANS. C

1084 On 4 Dec. 1981, your 1500 ZT DR position is LAT 18°06.0' N, LONG 75°42.0' W. You are on course 020° T at a speed of 15.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1548 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Venus	1500	73°51.1'	48°29.5'	S 23°22.1'
Sun L/L	1524	128°25.7'	24°24.9'	S 22°18.6'
Moon L/L	1548	37°54.1'	43°24.8'	S 9°43.0'

A. LAT 18°10.3' N, LONG 75°34.5' W
B. LAT 18°12.6' N, LONG 75°42.0' W
C. LAT 18°14.0' N, LONG 75°40.0' W
D. LAT 18°17.3' N, LONG 75°37.7' W

ANS. D

1085 On 20 Feb. 1981, your vessel is enroute from Honolulu, HI,

to San Francisco, CA. You are steering course 033° T and making a speed of 18 knots. Your 0530 zone time DR is LAT 24°15.0' N, LONG 137°33.0' W. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

STAR	ZONE TIME	BODY'S GHA	BODY'S DECLINATION	OBSERVED ALTITUDE(Ho)
Regulus	0540	218°35.9'	N 12°03.5'	13°02.2'
Antares	0552	126°23.5'	S 26°23.3'	38°04.1'
Vega	0600	96°23.2'	N 38°45.8'	52°33.5'

A. LAT 24°24.3' N, LONG 137°35.5' W
B. LAT 24°26.0' N, LONG 137°25.8' W
C. LAT 24°27.5' N, LONG 137°31.8' W
D. LAT 24°30.1' N, LONG 137°24.5' W

ANS. C

1086 On 15 July 1981, your vessel is enroute from Portland, OR, to Singapore, Malaysia. You are steering course 243° T and making a speed of 16 knots. Your 1845 zone time DR is LAT 27°42.0' N, LONG 167°02.0' E. You observed 3 celestial bodies. Determine the latitude and longitude of your 1945 running fix?

STAR	ZONE TIME	BODY'S GHA	BODY'S DECLINATION	OBSERVED ALTITUDE(Ho)
Deneb	1905	104°08.0'	N 45°12.8'	19°52.4'
Antares	1924	172°02.1'	S 26°23.5'	32°22.1'
Denebola	1945	247°20.6'	N 14°40.7'	38°22.3'

A. LAT 27°31.1' N, LONG 166°43.0' E
B. LAT 27°38.5' N, LONG 166°45.1' E
C. LAT 27°45.3' N, LONG 166°32.2' E
D. LAT 28°18.1' N, LONG 166°39.8' E

ANS. A

1087 On 15 August 1981, your vessel is enroute from Bombay, India, to San Francisco, CA. You are steering course 020° T and making a speed of 20.0 knots. Your 1830 zone time DR is LAT 26°13.0' N, LONG 135°18.0' W. You observed 3 celestial bodies. Determine the latitude and longitude of your 1935 running fix?

STAR	ZONE TIME	BODY'S GHA	BODY'S DECLINATION	OBSERVED ALTITUDE(Ho)

Spica	1848	180°24.3'	S 11°03.8'	32°21.4'
Altair	1910	89°29.8'	N 8°49.3'	43°06.3'
Kochab	1935	170°33.4'	N 74°14.3'	39°12.0'

A. LAT 26°15.9' N, LONG 135°03.6' W
B. LAT 26°35.3' N, LONG 135°24.8' W
C. LAT 26°40.5' N, LONG 135°21.6' W
D. LAT 26°48.1' N, LONG 135°20.7' W

ANS. D

1088 On 9 June 1981, your 0000 DR position is LAT 26°14.0' S, LONG 176°38.1' E. You are on course 223° T, speed 17.8 knots. You observed 4 celestial bodies. Determine the latitude and longitude of your 0630 running fix?

STAR	ZONE TIME	BODY'S GHA	BODY'S DECLINATION	OBSERVED ALTITUDE(Ho)
Achernar	0612	139°47.5'	S 57°19.8'	46°42.8'
Altair	0620	228°34.3'	N 8°49.1'	34°14.4'
KausAustralis	0626	251°48.6'	S 34°23.6'	33°25.5'
Fomalhaut	0630	184°33.8'	S 29°43.2'	87°58.7'

A. LAT 27°44.7' S, LONG 174°57.1' E
B. LAT 27°46.2' S, LONG 175°03.0' E
C. LAT 27°41.2' S, LONG 175°01.2' E
D. LAT 27°38.5' S, LONG 175°06.3' E

ANS. A

1089 At 1830 zone time, on 6 April 1981, your DR position is LAT 26°33.0' N, LONG 64°31.0' W. You are steering course 082° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?

STAR	ZONE TIME	STAR'S GHA	OBSERVED ALTITUDE(Ho)	STAR'S DECLINATION
Sirius	1836	73°02.7'	46°00.5'	S 16°41.7'
Regulus	1842	23°46.9'	49°07.2'	N 12°03.5'
Mirfak	1900	129°24.3'	35°50.5'	N 49°47.7'

A. LAT 26°20.1' N, LONG 64°19.4' W
B. LAT 26°23.7' N, LONG 64°29.3' W
C. LAT 26°28.4' N, LONG 64°32.1' W
D. LAT 26°32.5' N, LONG 64°27.1' W

ANS. D

1090 At 0450 zone time, on 25 June 1981, your DR position is LAT 21°26.0' N, LONG 160°24.5' W. You are steering course 100° T at a speed of 10 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0514 running fix?

STAR	ZONE TIME	STAR'S GHA	OBSERVED ALTITUDE(Ho)	STAR'S DECLINATION
Mirfak	0450	100°25.9'	35°27.4'	N 49°47.5'
Fomalhaut	0502	169°59.9'	38°01.3'	S 29°43.1'
Altair	0514	219°39.9'	31°39.5'	N 8°49.1'

A. LAT 21°27.0' N, LONG 160°17.0' W
B. LAT 21°25.0' N, LONG 160°18.0' W
C. LAT 21°22.0' N, LONG 160°17.0' W
D. LAT 21°20.0' N, LONG 160°15.5' W

ANS. B

1091 On 10 August 1981, your 0430 ZT position is LAT 29°56.7' S, LONG 139°11.0' E. Your course is 321° T, speed 18.2 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0500 running fix?

STAR	TIME	GHA	DECLINATION	OBSERVED ALTITUDE
Fomalhaut	0452	272°03.3'	S 29°43.1'	46°05.3'
Canopus	0459	162°05.5'	S 52°41.0'	41°48.9'
Achernar	0510	236°28.2'	S 57°19.6'	60°26.5'

A. LAT 29°46.0' S, LONG 138°54.0' E
B. LAT 29°49.2' S, LONG 138°57.0' E
C. LAT 29°56.0' S, LONG 139°03.8' E
D. LAT 30°07.5' S, LONG 138°55.2' E

ANS. B

1092 On 3 April 1981, your vessel's 1400 ZT DR position is LAT 20°08.0' N, LONG 147°45.0' W. You are steering course 023° T at 18.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?

STAR	ZONE TIME	GHA	DECLINATION	OBSERVED ALTITUDE(Ho)

Capella	1848	195°07.8'	N 45°58.8'	44°10.2'
Sirius	1903	167°06.2'	S 16°41.7'	46°52.9'
Aldebaran	1912	201°44.0'	N 16°28.2'	38°17.9'

A. LAT 21°39.8' N, LONG 146°59.7' W
B. LAT 21°40.0' N, LONG 147°03.2' W
C. LAT 21°41.8' N, LONG 147°05.5' W
D. LAT 21°41.8' N, LONG 147°01.5' W

ANS. B

1093 On 22 Nov. 1981, your vessel is enroute from Accra, Ghana, to Montevideo, Uruguay. You are on course 240° T and making a speed of 15.0 knots. Your 1129 DR position is LAT 28°25.0' S, LONG 42°40.0' W. You observed 3 celestial bodies. Determine the latitude and longitude of your 1137 running fix?

BODY	ZONE TIME	BODY'S GHA	DECLINATION	OBSERVED ALTITUDE(Ho)
Venus	1129	350°00.1'	S 25°41.8'	43°26.8'
Moon	1134	082°54.7'	S 01°46.5'	43°15.0'
Sun	1137	042°38.0'	S 20°11.7'	81°44.7'

A. LAT 28°27.0' S, LONG 42°38.0' W
B. LAT 28°25.2' S, LONG 42°40.0' W
C. LAT 28°25.0' S, LONG 42°36.0' W
D. LAT 28°23.4' S, LONG 42°42.0' W

ANS. A

1094 On 12 Oct. 1981, your vessel is on course 081° T, speed 20 knots. Your 1800 zone time DR position is LAT 26°11.0' S, LONG 77°18.0' E. You observed 3 celestial bodies. Determine the latitude and longitude of your 1835 running fix?

STAR	ZONE TIME	BODY'S GHA	BODY'S DECLINATION	OBSERVED ALTITUDE(Ho)
Vega	1810	299°26.6'	N 38°46.3'	23°08.7'
Fomalhaut	1823	237°37.0'	S 29°43.2'	50°23.9'
Antares	1835	337°43.4'	S 26°23.4'	40°53.1'

A. LAT 26°05.5' S, LONG 77°14.5' E
B. LAT 26°07.5' S, LONG 77°34.0' E
C. LAT 26°09.0' S, LONG 77°27.5' E
D. LAT 26°12.0' S, LONG 77°31.0' E

ANS. D

1095 On 25 Oct. 1981, your 0430 ZT DR position is LAT 24°48.O' N, LONG 65°21.1' W. Your vessel is on course 030° T at a speed of 18 knots. You observed 3celestial bodies. Determine the latitude and longitude of your 0455 running fix?

STAR	ZONE TIME	BODY'S GHA	BODY'S DECLINATION	OBSERVED ALTITUDE(Ho)
Mirfak	0430	110°23.1'	N 49°47.7'	47°20.8'
Regulus	0440	011°48.3'	N 12°03.5'	37°49.9'
Sirius	0455	066°19.5'	S 16°41.3'	48°25.3'

A. LAT 24°53.0' N, LONG 65°28.3' W
B. LAT 24°53.0' N, LONG 65°12.5' W
C. LAT 24°54.0' N, LONG 65°17.3' W
D. LAT 25°03.0' N, LONG 65°18.5' W

ANS. A

1096 On 24 October 1981, your 0100 DR position is LAT 27°42' N, LONG 158°35' E. You are on course 085° T at a speed of 12 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0700 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Rigel	0558	238°11.2'	38°39.5'	S 08°13.2'
Capella	0600	238°16.1'	55°15.1'	N 45°58.7'
Denebola	0604	141°05.0'	33°39.8'	N 14°40.6'

A. LAT 27°48.8' N, LONG 160°12.5' E
B. LAT 27°52.5' N, LONG 160°18.2' E
C. LAT 27°56.0' N, LONG 159°47.3' E
D. LAT 27°58.4' N, LONG 159°43.5' E

ANS. C

1097 On 9 November 1981, your 0400 DR position is LAT 18°24.0' S, LONG 97°36.0' W. You are on course 138° T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Canopus	0510	120°08.7'	51°31.4'	S 52°40.9'
Aldebaran	0512	147°49.1'	29°07.8'	N 16°28.4'
Regulus	0514	065°11.7'	45°57.5'	N 12°03.5'

A. LAT 18°15.0' S, LONG 98°52.5' W
B. LAT 18°45.0' S, LONG 97°06.8' W
C. LAT 18°52.5' S, LONG 97°10.6' W
D. LAT 19°15.5' S, LONG 98°08.8' W

ANS. B

1098 On 19 September 1981, your 0300 zone time DR position is LAT 24°35' N, LONG 88°40' W. You are on course 288° T at a speed of 14 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Regulus	0530	018°56.5'	22°45.2'	N 12°03.6'
Sirius	0532	070°12.2'	44°30.6'	S 16°41.3'
Hamal	0536	140°44.1'	43°16.5'	N 23°22.5'

A. LAT 24°47.4' N, LONG 89°15.0' W
B. LAT 24°52.5' N, LONG 89°22.4' W
C. LAT 24°59.5' N, LONG 89°28.6' W
D. LAT 25°06.0' N, LONG 90°37.0' W

ANS. B

1099 On 6 April 1981, your 0300 DR position is LAT 27°42' S, LONG 128°58' W. You are on course 097° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Fomalhaut	0530	203°08.6'	25°17.5'	S 29°43.4'
Rigil Kent.	0536	194°12.4'	35°26.6'	S 60°45.3'
Vega	0540	135°43.2'	23°06.8'	N 38°45.7'

A. LAT 27°15.5' S, LONG 128°12.4' W
B. LAT 27°44.7' S, LONG 127°47.5' W
C. LAT 27°52.4' S, LONG 127°49.4' W
D. LAT 28°15.2' S, LONG 128°11.6' W

ANS. B

1101 On 21 Dec. 1981, your 0300 DR position is LAT 21°24.0' N, LONG 65°15.0' W. You are on course 122° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0700 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Antares	0625	359°05.3'	11°17.1'	S 26°23.4'
Pollux	0628	130°51.1'	29°35.4'	N 28°04.2'
Vega	0630	328°20.1'	08°18.7'	N 38°46.1'

A. LAT 20°28.9' N, LONG 64°07.9' W
B. LAT 20°54.6' N, LONG 65°51.5' W
C. LAT 21°12.0' N, LONG 64°51.0' W
D. LAT 21°47.5' N, LONG 65°10.6' W

ANS. A

1102 On 19 November 1981, your 0200 zone time DR position is LAT 18°41' N, LONG 150°37' E. You are on course 014° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Arcturus	0532	137°03.2'	22°34.9'	N 19°16.7'
Suhail	0537	215°10.4'	26°45.6'	S 43°21.2'
Capella	0538	273°25.1'	31°43.5'	N 45°58.7'

A. LAT 19°45.4' N, LONG 150°52.6' E
B. LAT 19°42.8' N, LONG 150°56.9' E
C. LAT 19°41.2' N, LONG 150°46.3' E
D. LAT 19°39.3' N, LONG 150°51.8' E

ANS. A

1103 On 25 August 1981, your 0300 zone time DR position is LAT 21°28.0' N, LONG 167°48.0 E. You are on course 248° T at a speed of 12 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Rigel	0512	167°31.4'	51°37.7'	S 8°13.2'
Diphda	0518	236°46.1'	31°52.1'	S 18°05.2'

Acamar	0524	204°33.0'	27°40.9'	S 40°22.5'

A. LAT 20°52.4' N, LONG 167°32.1' E
B. LAT 20°57.1' N, LONG 167°01.0' E
C. LAT 20°59.5' N, LONG 166°54.8' E
D. LAT 21°06.0' N, LONG 167°10.9' E

ANS. B

1104 On 19 November 1981, your 0200 zone time DR position is LAT 20°29.0' N, LONG 150°21.3' E. You are on course 136° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Regulus	0530	198°24.3'	77°21.3'	N 12°03.4'
Arcturus	0532	137°03.2'	22°47.9'	N 19°16.7'
Suhail	0537	215°10.4'	26°44.9'	S 43°21.2'

A. LAT 19°30.1' N, LONG 151°06.0' E
B. LAT 19°31.7' N, LONG 151°04.9' E
C. LAT 19°33.0' N, LONG 151°10.0' E
D. LAT 19°35.8' N, LONG 151°13.6' E

ANS. C

1105 On 28 May 1981, your 0200 DR position is LAT 19°16.5' S , LONG 119°24.0' W. You are on course 107° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Diphda	0524	076°20.5'	50°34.8'	S 18°05.4'
Antares	0530	201°26.0'	14°16.9'	S 26°23.4'
Deneb	0538	140°18.4'	22°00.3'	N 45°12.6'

A. LAT 19°43.0' S, LONG 117°54.0' W
B. LAT 19°48.2' S, LONG 118°04.5' W
C. LAT 20°07.5' S, LONG 117°32.0' W
D. LAT 20°17.1' S, LONG 118°06.0' W

ANS. A

1106 On 23 January 1981, your 0200 DR position is LAT 18°32.5' N,

LONG 135°14.0' E. You are on course 064° T at a speed of 15 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Vega	0538	152°32.3'	26°05.5'	N 38°45.9'
Regulus	0542	280°45.8'	35°05.8'	N 12°03.5'
Hadar	0546	222°59.5'	10°32.1'	S 60°16.6'

A. LAT 18°58.5' N, LONG 136°10.1' E
B. LAT 19°08.4' N, LONG 136°06.5' E
C. LAT 19°14.0' N, LONG 136°04.8' E
D. LAT 19°45.5' N, LONG 137°50.5' E

ANS. C

1107 On 16 April 1981, your 0200 zone time DR position is LAT 17°18' S, LONG 168°46' E. You are on course 236° T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Fomalhaut	0523	133°27.1'	35°40.4'	S 29°43.4'
Peacock	0527	172°33.9'	48°28.6'	S 56°47.6'
Antares	0531	232°32.3'	51°43.9'	S 26°23.4'

A. LAT 17°54.9' S, LONG 167°48.7' E
B. LAT 17°55.6' S, LONG 167°45.1' E
C. LAT 17°56.8' S, LONG 167°52.4' E
D. LAT 18°00.4' S, LONG 167°49.2' E

ANS. D

1108 On 19 January 1981, your 0300 zone time DR position is LAT 22°13' N, LONG 40°19' W. You are on course 297° T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0545 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Vega	0533	327°50.1'	27°24.7'	N 38°45.9'
Spica	0543	48°21.6'	54°51.6'	S 11°03.7'
Dubhe	0552	86°01.1'	41°08.9'	N 61°51.0'

A. LAT 22°28.5' N, LONG 41°03.0' W
B. LAT 22°30.3' N, LONG 41°00.2' W
C. LAT 22°31.1' N, LONG 42°58.6' W
D. LAT 22°33.0' N, LONG 42°55.9' W

ANS. A

1109 On 5 May 1981, your 1600 zone time DR position is LAT 17°28' S, LONG 143°39' E. You are on course 316° T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1800 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Avoir	1727	209°18.2'	47°24.4'	S 59°27.3'
Regulus	1732	184°14.7'	46°35.2'	N 12°03.6'
Betelgeuse	1738	249°03.6'	49°41.5'	N 7°24.1'

A. LAT 17°05.2' S, LONG 143°11.4' E
B. LAT 17°07.8' S, LONG 143°17.5' E
C. LAT 17°08.2' S, LONG 143°07.9' E
D. LAT 17°09.7' S, LONG 143°10.1' E

ANS. A

1110 On 19 November 1981, your 0300 zone time DR position is LAT 19°23' N, LONG 151°37' E. You are on course 293° T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Mars	0525	180°59.9'	60°05.5'	N 07°05.2'
Arcturus	0532	137°03.2'	22°39.0'	N 19°16.7'
Suhail	0537	215°10.4'	26°51.3'	S 43°21.2'

A. LAT 19°38.5' N, LONG 150°41.6' E
B. LAT 19°34.8' N, LONG 150°48.0' E
C. LAT 19°32.9' N, LONG 150°52.3' E
D. LAT 19°30.5' N, LONG 150°48.5' E

ANS. B

1111 On 19 November 1981, your 1914 zone time DR position is LAT 30°12' S, LONG 12°15' E. You are on course 135° T at a speed of 15 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

BODY	ZONE TIME	GHA	OBSERVED ALTITUDE(Ho)	DECLINATION
Mars	0525	180°59.9'	60°05.5'	N 07°05.2'
Arcturus	0532	137°03.2'	22°39.0'	N 19°16.7'
Suhail	0537	215°10.4'	26°51.3'	S 43°21.2'

A. LAT 19°38.5' N, LONG 150°41.6' E
B. LAT 19°34.8' N, LONG 150°48.0' E
C. LAT 19°32.9' N, LONG 150°52.3' E
D. LAT 19°30.5' N, LONG 150@48.5' E

ANS. B

1517 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the east coast of South America your 0723 DR position is LAT 29°28' S, LONG 48°17' W. You are on course 324° T; speed 16 knots. At 0723 you take RDF bearings. The gyro error is 2° W. What is your position based on these bearings?

STATION	TRAMANDAI	CABO DE SANTA MARTA GRANDE
LAT	30°00.6' S	28°36.2' S
LONG	50°08.2' W	48°48.9' W
RDF GYRO BEARING	255.5°	336.1°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	-4.0°	180°	+0.5°
045°	-2.5°	225°	+3.5°
090°	-0.5°	270°	+1.0°
135°	0.0°	315°	-2.0°

A. LAT 29°31.0' S, LONG 48°13.6' W
B. LAT 29°31.9' S, LONG 48°20.8' W
C. LAT 29°33.3' S, LONG 48°17.9' W
D. LAT 29°36.7' S, LONG 48°12.1' W

ANS. A

2501 A plotting sheet should be used to plot the radiobeacons and

solve the following problem.

On a voyage along the east coast of South America your 1200 DR position is LAT 30°00.0' S, LONG 48°24.0' W. You are on a course of 044° T; speed 11.0 knots. The gyro error is 2° W. Determine your 1300 position from the RDF bearings taken at that time.

STATION	TRAMANDAI	CABO DE SANTA MARTA GRANDE
LAT	30°00.6' S	28°36.2' S
LONG	50°08.2' W	48°48.9' W
RDF GYRO BEARING	263.5°	338.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	-2.5°	180°	+1.0°
045°	-1.0°	225°	+2.0°
090°	0.0°	270°	0.0°
135°	+0.5°	315°	-1.0°

A. LAT 29°49.0' S, LONG 48°10.0' W
B. LAT 29°51.2' S, LONG 48°15.2' W
C. LAT 29°53.8' S, LONG 48°10.2' W
D. LAT 29°55.1' S, LONG 48°13.1' W

ANS. A

2502 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the east coast of South America, your 0800 DR position is LAT 26°30.0' S, LONG 46°36.8' W. You are on course 209° T; speed 14.0 knots. The gyro error is 1° W. Determine your 0900 position from the RDF bearings taken at that time.

STATION	ILHA MOELA	PARANAGUA	CABO DE SANTA MARTA GRANDE
LAT	24°03.0' S	25°30.0' S	28°36.2' S
LONG	46°16.0' W	48°19.0' W	48°48.9' W
RDF GYRO BEARING	012.4°	310.2°	223.5°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-4.0°
045°	+4.0°	225°	-1.5°
090°	+1.0°	270°	0.0°
135°	-2.0°	315°	+0.5°

A. LAT 26°38.7' S, LONG 46°42.0' W
B. LAT 26°42.5' S, LONG 46°36.4' W
C. LAT 26°43.0' S, LONG 46°47.0' W
D. LAT 26°43.9' S, LONG 46°42.5' W

ANS. D

2503 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage from Dakar to the Mediterranean, your 1410 DR position is LAT 26°30.0' N, LONG 15°50.0' W. You take 3 RDF bearings at that time. The vessel's heading was 055° pgc. Gyro error is 2° W. Determine your 1410 position from the bearings taken at that time.

STATION	LAS PALMAS	PUNTA LANTAILLA	EL AAIUN
LAT	27°58.0' N	28°13.7' N	27°10.0' N
LONG	15°24.0' W	13°56.8' W	13°13.0' W
RDF GYRO BEARING	014.0°	043.3°	074.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+3°	180°	-3°
045°	+1°	225°	-1°
090°	-1°	270°	0°
135°	-3°	315°	+1°

A. LAT 26°43.5' N, LONG 15°48.0' W
B. LAT 26°38.4' N, LONG 15°37.2' W
C. LAT 26°33.5' N, LONG 15°45.4' W
D. LAT 26°26.3' N, LONG 15°47.6' W

ANS. C

2504 A plotting sheet should be used to solve the following problem.

On a voyage from Capetown to Paranagua, Brazil, your 1114 zone time DR position is LAT 26°04.0' S, LONG 46°42.0' W. You take two RDF bearings. The helmsman was on course 293° pgc at the time of the bearings. The gyro error is 3° W. Determine your position from the bearings taken at that time.

STATION	PARANAGUA	ILHA MOELA

LAT	25°30.0' S	24°03.0' S
LONG	48°19.0' W	46°16.0' W
RDF GYRO BEARING	297.6°	016.0°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	-3°	180°	+2°
045°	-2°	225°	0°
090°	+1°	270°	-1°
135°	+2°	315°	-2°

A. LAT 26°02.8' S, LONG 46°48.0' W
B. LAT 26°07.0' S, LONG 46°41.8' W
C. LAT 26°09.5' S, LONG 46°48.3' W
D. LAT 26°08.3' S, LONG 46°40.3' W

ANS. A

2505 Station positions may be plotted on the appropriate plotting sheet.

Your 1420 ZT DR position is LAT 27°46.0' S, LONG 46°12.0' W when you take RDF bearings. The helmsman was on course 221° T at the time of the bearings. There is no gyro error. What is your 1420 position based on these bearings?

STATION	ILHA MOELA	PARANAGUA	CABO DE SANTA MARTA GRANDE
LAT	24°03.0' S	25°30.0' S	28°36.2' S
LONG	46°16.0' W	48°19.0' W	48°48.9' W
RDF GYRO BEARING	359.1°	316.1°	240.8°

RDF CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	- 1°	180°	+ 1°
045°	0°	225°	0°
090°	+ 1°	270°	- 1°
135°	+ 3°	315°	- 3°

A. LAT 27°20.4' S, LONG 46°13.2' W
B. LAT 27°23.8' S, LONG 46°23.7' W
C. LAT 27°24.2' S, LONG 46°33.6' W
D. LAT 27°28.0' S, LONG 46°19.7' W

ANS. B

2506 A plotting sheet should be used to plot the radiobeacons and

solve the following problem.

On a voyage along the west coast of Africa, your 1430 DR position is LAT 28°37.5' N, LONG 11°40.0' W. You are on course 249° T; speed 19.8 knots. The gyro error is 2° E. At 1500 you take RDF bearings. Determine your 1500 position based on the radio bearings.

STATION	EL AAIUN	PUNTA LANTAILLA	ARRECIFE
LAT	27°10.0' N	28°13.8' N	28°56.9' N
LONG	13°13.0' W	13°56.8' W	13°37.0' W
RDF GYRO BEARING	220.9°	258.0'	280.9°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	- 1.0°	180°	0.0°
045°	+ 2.0°	225°	- 1.5°
090°	+ 4.0°	270°	- 4.0°
135°	+ 2.5°	315°	- 4.0°

A. LAT 28°33.1' N, LONG 12°01.0' W
B. LAT 28°34.0' N, LONG 11°53.5' W
C. LAT 28°36.0' N, LONG 11°50.6' W
D. LAT 28°36.3' N, LONG 11°58.8' W

ANS. B

2507 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage enroute to the Canary Islands, your 2300 DR position is LAT 29°30' N, LONG 14°50' W. You are on course 122° T; speed 14.6 knots. The gyro error is 1° W. You take RDF bearings at the times indicated. Determine your 2400 position based on the radio bearings.

STATION	LA ISLETA	ARRECIFE	REINA SOPHIA
LAT	28°10.2' N	28°56.9' N	28°02.2' N
LONG	15°25.0' W	13°37.0' W	16°34.0' W
RDF GYRO BEARING	200.8°	113.5°	230.0°
TIME	2321	2335	2351

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+ 2.0°	180°	- 0.5°
045°	+ 3.0°	225°	- 1.0°
090°	+ 1.5°	270°	- 2.5°
135°	+ 0.0°	315°	- 1.0°

A. LAT 29°19.5' N, LONG 14°34.6' W
B. LAT 29°24.4' N, LONG 14°37.2' W
C. LAT 29°26.6' N, LONG 14°40.9' W
D. LAT 29°22.3' N, LONG 14°42.1' W

ANS. D

125

2508 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the west coast of Africa, your 1100 DR position is LAT 27°00' N, LONG 15°15' W. You are on course 062° T; speed 15.8 knots. The gyro error is 2° W. Determine your position from the RDF bearings taken at 1200.

STATION	LAS PALMAS	PUNTA LANTAILLA	EL AAIUN
LAT	27°58.0' N	28°13.8' N	27°10.0' N
LONG	15°24.0' W	13°56.8' W	13°13.0' W
RDF GYRO BEARING	341.1°	046.3°	091.6°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	- 2.0°	180°	+ 1.0°
045°	+ 1.0°	225°	- 0.5°
090°	+ 2.5°	270°	- 2.0°
135°	+ 3.0°	315°	- 3.0°

A. LAT 27°05.5' N, LONG 14°58.2' W
B. LAT 27°07.8' N, LONG 14°56.0' W
C. LAT 27°10.0' N, LONG 15°01.0' W
D. LAT 27°12.2' N, LONG 15°05.3' W

ANS. C

126

2509 On a voyage from Cadiz, Spain to Capetown, your 0958 DR position is LAT 28°50' N, LONG 15°18' W, when you take 3 RDF bearings. At the time of the bearings, your vessel was heading 223° per gyrocompass. Your gyro error is 3° E. Determine your position based on these bearings.

STATION	PUNTA LANTAILLA	ARRECIFE	LA ISLETA
LAT	28°13.8' N	28°57.0' N	28°10.4' N

LONG	13°56.8' W	13°37.0' W	15°25.0' W
RDF GYRO BEARING	112.1°	081.9°	182.0°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	0°	180°	- 1°
045°	- 1°	225°	0°
090°	- 3°	270°	+ 1°
135°	- 2°	315°	+ 1°

A. LAT 28°53.5' N, LONG 15°16.0' W
B. LAT 28°49.2' N, LONG 15°20.8' W
C. LAT 28°46.2' N, LONG 15°14.9' W
D. LAT 28°46.4' N, LONG 15°27.6' W

ANS. B

2510 A radiobeacon bears 205° relative. The vessel's heading is 138° per gyrocompass. Gyro error is 1° W. The RDF calibration curve is shown. What is the true bearing of the radiobeacon?

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+2°	180°	-2°
045°	+1°	225°	+1°
090°	-1°	270°	+4°
135°	-1°	315°	+3°

A. 133°
B. 204°
C. 206°
D. 342°

ANS. D

2511 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the west coast of Africa your 1615 DR position is LAT 29°06' N, LONG 15°22' W. You are on course 148° T; speed 13.5 knots. At 1615 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

STATION	PUNTA LANTAILLA	REINA SOPHIA
LAT	28°13.8' N	28°02.2' N

LONG	13°56.8' W	16°34.0' W
RDF GYRO BEARING	129.6°	225.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	-2.0°	180°	+1.0°
045°	-1.0°	225°	-0.5°
090°	+2.0°	270°	-1.5°
135°	+2.5°	315°	-2.5°

A. LAT 29°05.1' N, LONG 15°18.6' W
B. LAT 29°07.8' N, LONG 15°19.2' W
C. LAT 29°10.3' N, LONG 15°26.2' W
D. LAT 29°12.8' N, LONG 15°14.9' W

ANS. B

128

2512 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the west coast of Africa your 1615 DR position is LAT 29°06' N, LONG 15°22' W. You are on course 148° T; speed 13.5 knots. At 1615 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

STATION	PUNTA LANTAILLA	REINA SOPHIA
LAT	28°13.8' N	28°02.2' N
LONG	13°56.8' W	16°34.0' W
RDF GYRO BEARING	126.6°	228.2°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	-2.0°	180°	+1.0°
045°	-1.0°	225°	-0.5°
090°	+2.0°	270°	-1.5°
135°	+2.5°	315°	-2.5°

A. LAT 28°55.0' N, LONG 15°10.0' W
B. LAT 29°01.8' N, LONG 15°18.2' W
C. LAT 29°10.3' N, LONG 15°26.2' W
D. LAT 29°12.8' N, LONG 15°14.9' W

ANS. B

129

2513 A plotting sheet should be used to plot the radiobeacons and

solve the following problem.

On a voyage along the west coast of Africa your 0930 DR position is LAT 26°58' N, LONG 14°37' W. You are on course 223° T; speed 18.5 knots. At 0930 you take RDF bearings. The gyro error is 1° E. What is your position based on these bearings?

STATION	LAS PALMAS	EL AAIUN
LAT	27°58.0' N	27°10.0' N
LONG	15°24.0' W	13°13.0' W
RDF GYRO BEARING	320.7°	075.2°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	-4.0°	180°	+2.5°
045°	-0.5°	225°	+1.0°
090°	+1.5°	270°	-0.5°
135°	+2.0°	315°	-2.5°

A. LAT 27°01.3' N, LONG 14°30.9' W
B. LAT 26°59.9' N, LONG 14°37.7' W
C. LAT 26°54.8' N, LONG 14°31.2' W
D. LAT 26°50.6' N, LONG 14°27.6' W

ANS. C

2514 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the west coast of Africa your 1351 DR position is LAT 27°14' N, LONG 15°52' W. You are on course 082° T; speed 13.7 knots. At 1351 you take RDF bearings. The gyro error is 2° E. What is your position based on these bearings?

STATION	REINA SOPHIA	EL AAIUN
LAT	28°02.2' N	27°10.0' N
LONG	16°34.0' W	13°13.0' W
RDF GYRO BEARING	322.0°	087.9°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	0.0°	180°	-0.5°
045°	+2.0°	225°	-2.0°
090°	+3.5°	270°	-1.5°
135°	+1.5°	315°	-1.0°

A. LAT 27°03.9' N, LONG 16°00.2' W

B. LAT 27°06.1' N, LONG 15°57.6' W
C. LAT 27°09.2' N, LONG 15°54.8' W
D. LAT 27°12.5' N, LONG 15°50.3' W

ANS. D

2515 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the east coast of South America your 0708 DR position is LAT 25°29.0' S, LONG 46°15.0' W. You are on course 256° T; speed 22 knots. At 0708 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

STATION	ILHA MOELA	PARANAGUA
LAT	24°03.0' S	25°30.0' S
LONG	46°16.0' W	48°16.0' W
RDF GYRO BEARING	003.5°	270.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+3.0°	180°	-4.0°
045°	0.0°	225°	-0.5°
090°	-1.0°	270°	0.0°
135°	-2.5°	315°	+1.5°

A. LAT 25°24.6' S, LONG 46°27.2' W
B. LAT 25°27.1' S, LONG 46°22.8' W
C. LAT 25°29.1' S, LONG 46°15.6' W
D. LAT 25°32.4' S, LONG 46°17.8' W

ANS. D

2516 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the east coast of South America your 1419 DR position is LAT 29°38' S, LONG 47°53' W. You are on course 017° T; speed 14 knots. At 1419 you take RDF bearings. The gyro error is 1° E. What is your position based on these bearings?

STATION	TRAMANDAI	CABO DE SANTA MARTA GRANDE
LAT	30°00.6' S	28°36.2' S
LONG	50°08.2' W	48°48.9' W
RDF GYRO BEARING	255.6°	317.7°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.5°	180°	-1.5°
045°	+0.5°	225°	0.0°
090°	-0.5°	270°	+3.0°
135°	-3.0°	315°	+2.5°

A. LAT 29°37.8' S, LONG 47°58.1' W
B. LAT 29°36.1' S, LONG 47°55.1' W
C. LAT 29°30.1' S, LONG 47°49.6' W
D. LAT 29°27.8' S, LONG 47°54.3' W

ANS. B

2518 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the east coast of South America your 0927 DR position is LAT 25°20' S, LONG 46°40' W. You are on course 217° T; speed 18 knots. At 0940 you take RDF bearings. The gyro error is 2° E. What is your position based on these bearings?

STATION	ILHA MOELA	PARANAGUA
LAT	24°03.0' S	25°30.0' S
LONG	46°16.0' W	48°19.0' W
RDF GYRO BEARING	013.6°	261.7°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	-3.0°	180°	+4.0°
045°	-1.0°	225°	+2.0°
090°	0.0°	270°	0.0°
135°	+1.0°	315°	-0.5°

A. LAT 25°17.0' S, LONG 46°38.8' W
B. LAT 25°18.1' S, LONG 46°38.2' W
C. LAT 25°19.3' S, LONG 46°43.3' W
D. LAT 25°20.8' S, LONG 46°47.6' W

ANS. C

2519 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the east coast of South America, your 1052 DR position is LAT 29°06.8' S, LONG 48°22.8' W. You are on course 056° T at 16.5 knots. The gyro error is 2° E. At 1102 the RDF gyro bearing of Cabo de Santa Marta Grande is 310.5°. At 1126 you change course to 000° T. At 1202 the RDF gyro bearing of Paranagua is 355°. What is your 1202 position based on these bearings?

STATION	CABO DE SANTA MARTA GRANDE	PARANAGUA
LAT	28°36.2' S	25°30.0' S
LONG	48°48.9' W	48°19.0' W

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+ 2°	180°	- 1°
045°	0°	225°	0°
090°	- 1°	270°	+ 2°
135°	- 3°	315°	+ 3°

A. LAT 28°41.0' S, LONG 48°15.1' W
B. LAT 28°46.0' S, LONG 48°15.0' W
C. LAT 28°48.2' S, LONG 48°01.5' W
D. LAT 28°50.1' S, LONG 48°07.8' W

ANS. B

2520 A plotting sheet should be used to plot the radiobeacons and solve the following problem.

On a voyage along the west coast of Africa your 1315 DR position is LAT 29°10' N, LONG 11°49' W. You are on course 242° T; speed 13.5 knots. At 1315 you take RDF bearings. The gyro error is 0°. What is your position based on these bearings?

STATION	ARRECIFE	EL AAIUN
LAT	28°56.9' N	27°10.0' N
LONG	13°37.0' W	13°13.0' W
RDF GYRO BEARING	265.5°	211.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-2.0°
045°	-1.0°	225°	-1.5°
090°	-1.5°	270°	+0.5°
135°	-2.0°	315°	+4.0°

A. LAT 29°05.8' N, LONG 11°45.5' W
B. LAT 29°07.1' N, LONG 11°52.6' W
C. LAT 29°08.6' N, LONG 11°56.9' W

D. LAT 29°09.2' N, LONG 12°00.3' W

ANS. A

2521 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 2000 DR position is LAT 29°23.5' N, LONG 87°45.0' W. You are on course 062° T, speed 15 knots. At 2130 you take RDF bearings. The gyro error is 0.5° W. What is your position based on these bearings?

STATION	MOBILE POINT	SW PASS JETTY	CAPE SAN BLAS
LAT	30°13.6' N	28°59.4' N	29°40.2' N
LONG	88°01.4' W	89°08.5' W	85°21.4' W
RDF GYRO BEARING	313.7°	253.7°	085.5°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 29°24.0' N, LONG 86°54.0' W
B. LAT 29°28.5' N, LONG 87°06.4' W
C. LAT 29°32.3' N, LONG 87°12.0' W
D. LAT 29°33.1' N, LONG 87°18.0' W

ANS. C

2522 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 1000 DR position is LAT 26°25.0' N, LONG 84°35.0' W. You are on course 222.5° T, speed 20 knots. At 1223 you take RDF bearings. The gyro error is 2.5° E. What is your position based on these bearings?

STATION	CAPE SAN BLAS	DRY TORTUGAS	EGMONT KEY
LAT	29°40.2' N	24°37.9' N	27°36.0' N
LONG	85°21.4' W	82°55.3' W	82°45.7' W
RDF Gyro			

BEARING	358.5°	113.4°	049.2°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 25°43.9' N, LONG 85°19.2' W
B. LAT 25°45.2' N, LONG 85°10.0' W
C. LAT 25°47.5' N, LONG 85°05.5' W
D. LAT 25°53.5' N, LONG 85°22.0' W

ANS. A

2523 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 0900 DR position is LAT 28°24.0' N, LONG 83°26.0' W. You are on course 248° T, speed 18 knots. At 0957 you take RDF bearings. The gyro error is 3° E. What is your position based on these bearings?

STATION	DRY TORTUGAS	YANKEETOWN	EGMONT KEY
LAT	24°37.9' N	28°58.0' N	27°36.0' N
LONG	82°55.3' W	82°41.8' W	82°45.7' W
RDF Gyro BEARING	164.5°	045.8°	124.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 28°12.9' N, LONG 83°39.0' W
B. LAT 28°14.0' N, LONG 83°20.4' W
C. LAT 28°18.4' N, LONG 83°15.6' W
D. LAT 28°24.1' N, LONG 83°40.0' W

ANS. A

2524 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 1600 DR position is LAT 29°50.0' N, LONG 86°30.0' W. You are on course 139° T, speed 14 knots. At 1645 you take RDF bearings. The gyro error is 1.5° W. What is your position based on these bearings?

STATION	MOBILE POINT	CAPE SAN BLAS	SW PASS JETTY
LAT	30°13.6' N	29°40.2' N	28°59.4' N
LONG	88°01.4' W	85°21.4' W	89°08.5' W
RDF Gyro BEARING	301.9°	082.3°	259.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 29°25.5' N, LONG 86°15.6' W
B. LAT 29°31.4' N, LONG 86°20.4' W
C. LAT 29°33.0' N, LONG 86°39.0' W
D. LAT 29°45.0' N, LONG 86°37.7' W

ANS. C

2525 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 1845 DR position is LAT 28°15.0' N, LONG 85°50.0' W. You are on course 297° T, speed 12 knots. At 1930 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

STATION	CAPE SAN BLAS	MOBILE POINT	SW PASS JETTY
LAT	29°40.2' N	30°13.6' N	28°59.4' N
LONG	85°21.4' W	88°01.4' W	89°08.5' W
RDF Gyro BEARING	031.8°	319.0°	282.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 28°20.6' N, LONG 86°04.2' W

B. LAT 28°24.0' N, LONG 86°07.7' W
C. LAT 28°25.9' N, LONG 86°12.5' W
D. LAT 28°26.3' N, LONG 86°13.0' W

ANS. B

141

2526 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 1530 DR position is LAT 27°47.2' N, LONG 88°17.8' W. You are on course 041° T, speed 16 knots. At 1725 you take RDF bearings. The gyro error is 1.5° W. What is your position based on these bearings?

STATION	SW PASS JETTY	MOBILE POINT	CAPE SAN BLAS
LAT	28°59.4' N	30°13.6' N	29°40.2' N
LONG	89°08.5' W	88°01.4' W	85°21.4' W
RDF Gyro BEARING	298.7°	347.7°	054°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 28°10.0' N, LONG 87°28.0' W
B. LAT 28°13.0' N, LONG 87°25.0' W
C. LAT 28°15.0' N, LONG 87°35.0' W
D. LAT 28°17.0' N, LONG 87°42.0' W

ANS. C

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2527 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 1845 DR position is LAT 30°34.5' N, LONG 86°15.5' W. You are on course 216° T, speed 8 knots. At 2245 you take RDF bearings. The gyro error is 0.5° W. What is your position based on these bearings?

STATION	SW PASS JETTY	MOBILE POINT	CAPE SAN BLAS

LAT	28°59.4' N	30°13.6' N	29°40.2' N
LONG	89°08.5' W	88°01.4' W	85°21.4' W
RDF Gyro BEARING	247.2°	269.5°	148.1°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 30°18.5' N, LONG 85°30.1' W
B. LAT 30°19.5' N, LONG 85°47.0' W
C. LAT 30°21.7' N, LONG 85°56.4' W
D. LAT 30°24.5' N, LONG 86°01.8' W

ANS. B

2528 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 0825 DR position is LAT 29°44.5' N, LONG 83°25.0' W. You are on course 221° T, speed 20 knots. At 0938 you take RDF bearings. The gyro error is 3° E. What is your position based on these bearings?

STATION	YANKEETOWN	CAPE SAN BLAS	EGMONT KEY
LAT	28°58.0' N	29°40.2' N	27°36.0' N
LONG	82°41.8' W	85°21.4' W	82°45.7' W
RDF Gyro BEARING	115.3°	279.9°	154.4°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 29°10.5' N, LONG 83°29.6' W
B. LAT 29°12.4' N, LONG 83°32.1' W
C. LAT 29°18.8' N, LONG 83°18.8' W
D. LAT 29°22.0' N, LONG 83°29.0' W

ANS. D

2529 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

On a voyage in the Gulf of Mexico, your 0130 DR position is LAT 27°47.5' N, LONG 84°16.7' W. You are on course 099° T, speed 16.5 knots. At 0245 you take RDF bearings. The gyro error is 1° E. What is your position based on these bearings?

STATION	YANKEETOWN	CAPE SAN BLAS	EGMONT KEY
LAT	28°58.0' N	29°40.2' N	27°36.0' N
LONG	82°41.8' W	85°21.4' W	82°45.7' W
RDF Gyro BEARING	033.4°	323.3°	096.7°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION
000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 27°39.5' N, LONG 83°15.4' W
B. LAT 27°30.5' N, LONG 83°41.6' W
C. LAT 27°42.9' N, LONG 83°30.6' W
D. LAT 27°44.0' N, LONG 83°44.5' W

ANS. D

2530 A plotting sheet may be used to plot the radiobeacons and solve the following problem.

You are on a voyage in the Gulf of Mexico. Your 2200 DR position is LAT 27°10.0' N, LONG 85°29.0' W. You are on course 029° T, speed 16.0 knots. At 2245 you take RDF bearings. The gyro error is 2° W. What is your position based on these bearings?

STATION	YANKEETOWN	EGMONT KEY	DRY TORTUGAS
LAT	28°58.0' N	28°36.0' N	24°37.9' N
LONG	82°41.8' W	82°45.7' W	82°55.3' W
RDF Gyro BEARING	055.9°	086.9°	146.2°

CALIBRATION TABLE

RELATIVE BEARING	-CORRECTION	RELATIVE BEARING	-CORRECTION

000°	+1.0°	180°	-1.0°
045°	-1.0°	225°	0.0°
090°	-3.0°	270°	+1.5°
135°	-1.0°	315°	+3.0°

A. LAT 27°17.9' N, LONG 85°08.4' W
B. LAT 27°20.1' N, LONG 85°18.7' W
C. LAT 27°22.2' N, LONG 85°21.0' W
D. LAT 27°22.4' N, LONG 85°12.2' W

ANS. D